



Midlands Five Year Forest Plan 2021-2025

Foreword

I have great pleasure in publishing Coillte's Midlands Five Year Forest Plan for our forests. The purpose is to set out plans for the forest and non-forest business that will take place in the BAU (Business Area Unit) during the plan period. In practicing sustainable forest management Coillte's aim is to develop its forests in a way that is environmentally, socially and economically sustainable, and to deliver the multiple benefits from our forests for climate, nature, wood and people. A key part of our business is sharing our plans with our neighbours, communities and stakeholders and endeavouring to incorporate their views.

The topics covered in the BAU Five Year Forest Plan include:

Forest Planning for Climate, Nature, Wood and People

- Tree Planting
- Timber Harvesting
- Timber Sales
- Forest Roads and Access
- Licenses and Lettings
- Recreation
- Land Acquisition and Property Sales
- Non-Forest Business such as Renewable Energy
- Community facilities and benefits
- Recreational and tourism infrastructure and partnerships
- Access to our forests
- Environmental enhancement measures such as biodiversity and nature conservation
- Sustainable Forest Management
- Long Term Retention of Trees
- Low impact silvicultural systems
- Water quality
- Forest design
- Use of chemicals



Paul Jordan

Midlands BAU Team Leader

Statement of Compliance with Principles of Sustainable Forest Management

The Coillte estate is a rich, high quality environmental resource, with the potential to interact with people, landscape, water and biodiversity. As such, Coillte recognises and seeks to minimise any potential adverse impacts of our business on the environment through responsible environmental management.

As part of our commitment to the stewardship of our forests, we seek and welcome comments and suggestions from stakeholders with regard to environmental issues. Through this partnership approach we also encourage co-operation from our stakeholders.

As a prerequisite to all our operations, Coillte is committed to the protection of the environment from all of our operations and activities associated with our forestry, property sales and energy businesses.

Our objectives are to:

1. Implement an organisation-wide system for managing environmental issues. The Director of Stewardship, Risk and Advocacy has responsibility for managing the implementation of our environmental management system (EMS).
2. Manage our business in full compliance with all applicable laws, directives and regulations, as well as voluntary external accredited schemes to which we subscribe e.g. the Forest Stewardship Council^{®1} (FSC[®]) and the Programme for the Endorsement of Forest Certification (PEFC)².
3. Prevent negative environmental impacts through a system of operational controls that include communication, written instructions and appropriate training
4. Continually improving environmental performance by setting and reviewing objectives & targets related to significant environmental risks and putting into effect programmes to reduce those risks.
5. Communicate, as appropriate, to Coillte staff and stakeholders, contractors and their employees and the communities within which we operate.



Paul Jordan

BAU Team Leader

¹ FSC[®] licence code FSC- C005714

² PEFC licence code PEFC/17-23-042

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1. Coillte and Five Year Forest Plans

1.1 Coillte

Coillte is Ireland's leading forestry company and largest supplier of timber in Ireland with operations in timber panel production, renewable energy and land management. Our core purpose is to deliver the multiple benefits from our forests for climate, nature, wood and people and enable a vibrant forestry sector in Ireland. As the largest landowner in Ireland we enable the development of renewable energy projects on our lands in order to address climate change.

History

Coillte was established under the Forestry Act of 1988 as a private limited company registered under and subject to the Companies Acts 1963-1986. All of the shares in the company are held by the Minister for Agriculture, Food and the Marine and the Minister for Public Expenditure and Reform on behalf of the Irish State. The Board of Directors is appointed by the Minister for Agriculture, Food and the Marine. Coillte commenced trading in 1989 when it acquired ownership and management of the Irish State's forests.

Coillte Today

The company is a forestry and forest products business, with interests in renewable energy. The company has three operating divisions - Coillte Forest, who manage all aspects of the forestry business, a Land Solutions business and Medite Smartply, a leading manufacturer of sustainable timber construction panels.

The company employs approximately 800 people across Ireland and the UK. Our business supports and enables a vibrant forestry sector in Ireland which is estimated to provide over 12,000 jobs, mostly in rural Ireland.

The Forest Service (Department of Agriculture, Food and the Marine) is the forest authority in Ireland and regulates the forest industry. The Forest Service is responsible for ensuring the development of forestry within Ireland in a manner and to a scale that maximises its contribution to national socio-economic well-being on a sustainable basis that is compatible with the protection of the environment.

Nature Conservation and Biodiversity

The Coillte estate consists of a varied tapestry of different habitats, ranging from conifer forests and mixed or broadleaved forests to open bogs and heathlands, to lakes and rivers. Independent ecologists have identified the areas on our estate with the best value for biodiversity. These are then mapped and managed by Coillte as biodiversity areas. Currently, 90,000 hectares of our lands (about 20% of the estate), in more than 2,300 sites, are mapped as biodiversity areas where nature conservation and biodiversity enhancement are the primary management objective. We work with and respect nature across all of our forest lands, identifying, mapping and protecting important features of biodiversity. A list of important wildlife and their habitats and species in this BAU can be found in Appendix II of this five year forest plan (insert link to Appendix II).

Outdoor Recreation

Coillte operate an open forest policy and welcome all visitors to our lands according to the 'Leave no Trace' principals. As Ireland's leading provider of outdoor recreation we have more than 260 forest recreation site, 12 forest parks, six dedicated mountain bike centres and over 3,000 km of waymarked walking trails for you to enjoy. For more information on how to get out and enjoy the outdoors and for details of all our recreation sites see <https://www.coillte.ie/our-forests/explore/>

1.2 Renewable Energy

Coillte is committed to the development of renewable energy in Ireland, as we move towards a sustainable future with enhanced energy security. As the largest provider of high quality sites to the renewable energy sector, Coillte is making a significant contribution to Ireland's 2030 target of achieving 80% of its electricity consumption from

renewable sources². Coillte is fully aligned with government and EU policy in terms of the role we play in relation to renewable energy development in Ireland.

Ireland's dependence on imported fossil fuel has left energy consumers vulnerable in terms of energy security, energy price volatility and exposure to carbon taxes. Reducing Ireland's reliance on fossil fuel imports, reducing our greenhouse gas emissions and improving domestic fuel security are key pillars for developing a green economy.

In November 2021, Coillte and ESB unveiled a new joint venture company, FuturEnergy Ireland (FEI). The aim of FuturEnergy Ireland is to materially help the country deliver on its green energy targets, achieving net zero emissions by 2050, as set out in the Government's Climate Action Plan and legislated for under the Climate Action Act. The Coillte-ESB joint venture is looking to actively drive Ireland's transition to a low carbon economy by developing 1GW of wind energy projects by 2030, enough to power more than 500,000 homes.

Coillte has already made a significant contribution towards the development of renewable energy in Ireland over the last 20 years. Over the course of the five year forest plan period and beyond, Coillte has a very important role to play, both as a developer through FEI, and as a landowner, in helping Ireland reach its 2030 renewable energy targets and in helping reduce Ireland's carbon emissions. Coillte proposes to do this through facilitating the development of multiple renewable energy technologies.

In terms of developing our renewable energy resources through FEI we are committed to:

- Open and transparent public participation and consultation in renewable energy projects with stakeholders and local communities.
- Best in class Environmental Impact Assessment and Appropriate Assessment that enhances and preserves local ecology and the habitats therein.
- Complying with all relevant environmental legislation, health and safety legislation, regulations and other requirements as they arise.
- Minimising the impact of wind farm development on the surrounding landscape and surrounding forestry in so far as that is possible through careful siting and design.
- Considering the impact on recreational users, and also the opportunity there may be when developing a wind farm to develop enhanced recreational facilities.
- Conducting our business in an environmentally friendly and responsible way.

1.2.1 Public Participation and Consultation for renewable energy projects

Coillte supports proper planning and sustainable development and fully recognises that the development of FEI renewable energy projects must afford appropriate protection to the social, environmental and economic pillars of sustainability. FEI's aim is to develop best-in-class wind farms with the support of local communities thereby enabling Ireland, and its people, to combat climate change.

FEI and other third party developers will consult widely with national and local stakeholders in all stages of the wind farm development from pre-planning, development and operational phases. In addition, all projects developed by FEI provide a Community Benefit mechanism as part of the project.

As part of Coillte's commitment to the responsible stewardship of its forests, it seeks and welcomes comments and suggestions from stakeholders about how it manages its forests in the most responsible way for the benefit of society and future generations. For any queries relating to the development of FEI or third party projects on Coillte lands we can be contacted at lsinfo@coillte.ie.

² <https://www.gov.ie/en/publication/774e2-national-development-plan-2021-2030/>

1.2.2 Wind Energy

Coillte's lands possess some of the best onshore wind regimes in Ireland due, inter alia, to its altitude, aspect and location. It also often particularly suitable for wind farm development due to its remoteness, accessibility, distance from dwellings and visibility relative to areas with high scenic amenity.

Coillte is aware that wind energy is a proven technology and according to the SEAI Energy in Ireland 2020 Report, wind generation accounted for 32% of all electricity generated in 2019³. As outlined in the White Paper 'Ireland's Transition to a Low Carbon Energy Future 2015-2030', Coillte too recognises that "onshore wind will continue to make a significant contribution"⁴ to meeting Ireland's energy needs.

Should you require further information regarding Coillte's involvement in the wind energy industry, please do not hesitate to contact us at info@coillte.ie.

1.2.3 Biomass

The key guiding principle for Coillte's vision is that Ireland's biomass is a limited and valuable indigenous resource and should be harnessed in a way that maximises value throughout the supply chain. Coillte does so by providing competitive, long term and secure biomass fuel supply contracts for its woodchip clients and also assists in the evaluation of both the technical and commercial viability of projects for large scale industrial energy users. Coillte continues to play a key leadership role in delivering sustainable biomass energy solutions to the Irish biomass industry through its regional processing hub supply model. We operate a number of regional biomass fuel supply hubs throughout the country. Coillte provide full chain of custody from forest to boiler ("stump to steam") and all wood chip is produced strictly in accordance with quality specifications set out in I.S. CEN/TS 14961: 2005, with a significant emphasis on optimisation of wood flow to minimise haulage distances for all transportation required. Coillte processing hub now support a range of supply chain jobs and underpins significant annual energy and carbon savings for its clients. Should you require any further details regarding Coillte's involvement in the biomass industry, please do not hesitate to contact us at biomass@coillte.ie.

1.2.4 Other Renewable Technologies

In addition to playing a leadership role in wind energy and biomass production, Coillte will continue to assess potential opportunities for other renewable technologies on the Coillte estate such as solar energy and energy storage along with any other emerging technologies.

1.3 Coillte's Resource Management Approach

In recent years, a major project was undertaken within Coillte Forest to review fundamentally our approach to managing our forest resource. The underlying objective of this work is to use optimisation techniques to ensure we are maximising the return from the land resource in a balanced and sustainable manner to deliver the benefits from our forests for climate, nature, wood and people. More recently this project moved into implementation phase and, after a successful pilot programme, has now been adopted as the primary planning tool for Coillte forest.

The schedule itself is built through running a management model. It is important that the model reflects the costs and benefits of all possible actions, the crop and site types and the circumstances under which each action is allowed, and the relevant management objectives and constraints operating at a strategic and local level.

As the model was developed and refined each BAU was consulted on the model as it applies to their area. The outputs of the management model may span multiple years or decades and in this format, will be used as a strategic resource management tool. A major benefit of the approach to Coillte is the speed with which a new national activity schedule is generated which reflects, for example, the impact of storm or a significant shift in markets. In extreme cases a stand may have its scheduled fell year shifted as frequently as every quarter, as the model is re-run to incorporate emerging information on demand or crop parameters.

³ <https://www.seai.ie/publications/Energy-in-Ireland-2020.pdf>

⁴ <https://www.gov.ie/en/publication/550df-the-white-paper-irelands-transition-to-a-low-carbon-energy-future-2015-2030/>

This is why forest management principles, objectives, constraints and opportunities are reflected into the model and form the basis of the BAU plan. Once these principles are agreed, each model run during the lifetime of the BAU Five Year Forest Plan will comply with the principles, as will the ensuing harvest schedule. The tree harvest activity levels are publicly available to view on our online interactive web map viewer (<https://www.coillte.ie/our-forests/public-goods/forest-plans/>), these draft activity levels are based on an initial run. Where changes occur due to public feedback or from other influences e.g. environmental or policy, which cause an increase of over 20% in forecasted activity within a property, these areas will be published annually on Coillte's website as having changed significantly since initial publication.

1.4 Benefits of Coillte to the Public

As the largest provider of timber and timber products in Ireland Coillte enables a vibrant national forestry sector employing around 12,000 people, mostly in rural Ireland. In addition to these benefits to the economy in terms of sustainable forest products and energy production, Coillte's forests provide a range of social, environmental, recreational, health and tourism benefits to the State and its people. In addition, Coillte recognises the important and unique role that its trees and forests can play in helping to address climate change.

Coillte operate an open forest policy and welcome over 18 million visitors to our lands each year. We provide over 260 forest recreation sites, twelve forest parks, six dedicated mountain bike trails and more than 3,000 km of walking trails on our lands. We are members of Leave No Trace Ireland and work closely with them to promote responsible use of the outdoors. Coillte also manage over 20% of our forest estate exclusively for nature conservation and biodiversity protection. Our forests have multiple uses and deliver multiple benefits and timber management and recreation are not exclusive of each other and can and do exist side by side on the Coillte Estate. Habitat restoration projects such as Coillte's EU funded LIFE Projects, and Coillte's BioClass programme along with recreation partnerships like the Dublin Mountains Partnership and the Dublin Mountains Makeover Project are showcase projects that demonstrate best practice in natural resource management and managing forests to deliver benefits for climate, nature, and people.

1.4.1 Trees, Carbon and Climate Change

In addition to being important resources for construction and for energy production our forests are also important natural systems for capturing and storing carbon from the atmosphere. Carbon dioxide is perhaps the main gas responsible for climate change and trees are key to the battle against it.

As they grow, trees remove carbon dioxide gas from the air. They convert this carbon into wood while at the same time releasing pure oxygen back into the atmosphere. This is incredibly valuable, ensuring forests, with thousands of trees are both an effective carbon store and carbon sink. The quicker a forest grows, the more carbon it removes from the atmosphere. Conifers grow at a faster rate than other trees, which is why they are perfect for carbon sequestration. Our fastest growing conifers have an average growth rate of 18 cubic metres per year compared to an average of 4 cubic metres for slower growing broadleaf tree.

If managed appropriately, productive forests can have an advantage over natural forests in terms of removing and storing carbon. Maturing trees in a natural forest can lose as much carbon to the atmosphere through decay as they absorb through growth. A managed forest however will continue to absorb carbon over multiple generations, as trees are harvested at maturity and replaced with new young trees. This maintains a rapid rate of carbon sequestration.

The timber products made from Irish forest wood also lock carbon away, which means that using Irish timber products for construction in place of more conventional materials such as bricks, concrete and steel also leads to further net reduction of carbon emissions. A recent report shows that, on average, for every cubic metre of local Irish wood that is harvested, to substitute more carbon intensive building materials, we save on average 0.77 tonnes of CO₂ equivalents. Currently about five million cubic metres of wood products are produced on the island of Ireland per year, and this means that if we can avoid using more 'carbon heavy' products there can be an enormous benefit of 3.7 million tonnes of CO₂ equivalents each year!

In summary, well managed forests have a triple benefit in combating climate change:

1. As a carbon sink: trees absorb carbon from the atmosphere.
2. As a carbon store: Carbon is stored in timber products after harvesting.
3. As a carbon substitute: Timber products can substitute carbon heavy products like concrete and steel.

And finally, trees are always replanted after harvesting to restart the cycle of carbon absorption again.

1.4.2 Coillte Nature

Coillte Nature is the not-for-profit branch of Coillte that is dedicated to the restoration, regeneration and rehabilitation of nature across Ireland. Our mission is to deliver real impact on the climate and biodiversity crises through innovative projects-of-scale across four strategic themes:

- Reforesting our landscapes by planting new native woodlands on un-forested land
- Restoring important biodiversity areas by investing in major habitat improvements
- Regenerating urban forests for the benefit of people and nature
- Rehabilitating ecosystem services by bringing sensitive or degraded lands into better health

For more information, see www.coillte.ie/coillte-nature/

1.5 Meeting external challenges, constraints and opportunities

Coillte and all of its forests, lands and operations are subject to a number of key external factors. Typically, these arise as policies or legislation relating to forestry which drive change and can have a major influence on our future. Understanding and anticipating these factors is vital to manage change proactively rather than responding to it reactively and Coillte work proactively with our key statutory and non-statutory regulators. The following table outlines some of the principal challenges and commitments. The five year forest plans are key to contributing to meeting these challenges and constraints.

1.5.1 Statutory and non-Statutory regulation and certification of forestry

Regulation	Response
National Forestry Programme 2023-2027 The Department is currently preparing for the development of the next forestry programme. The current National Forestry Programme 2014-2020 is 100% exchequer funded, comprises an investment of approximately €482 million over its lifetime, and received approval to be extended to the end of 2022 by the European Commission, in accordance with CAP and State aid transition requirements. A new National Forestry Programme is therefore required from January 2023 for a period to the end of 2027.	In response to the National Forestry Programme: • Coillte will manage its forests and lands to increase the amount of carbon stored. • Coillte will set and meet targets for the national timber supply and continue to promote the use of wood and wood products. • Coillte will seek to increase the recreational offering of its forests. • Coillte will increase the area of its forests managed for nature conservation and biodiversity.
National Biodiversity Plan Ireland is a signatory to the 1992 Convention on Biological Diversity and is committed to biodiversity protection and	Coillte is making a meaningful contribution to the National Biodiversity Action Plan through the designation of 20% of its forest estate overall for nature conservation and biodiversity management, and is committed to increasing this overall total.

enhancement measures in the National Biodiversity Plan.	Coillte initiated a partnership with the National Biodiversity Data Centre based in Waterford which currently holds more than 85,000 records of different species of animals and plants from Coillte lands.
EC Habitats Directive and EC Birds Directive (92/43/EEC) as transposed into Irish law under the S.I. No. 477 of 2011 EUROPEAN COMMUNITIES (BIRDS AND NATURAL HABITATS) REGULATIONS 2011. The EU Directive on the conservation of natural habitats and of wild fauna and flora provides for the protection of habitats and their species, and where necessary their restoration to favourable conservation status.	Coillte is committed to achieving or maintaining favourable condition of all of the Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Natural Heritage Areas (NHA) on its lands. All forest operations which potentially could impact on such sites are assessed under the criteria outlined as required by the Regulations.
Water Framework Directive (2000/60/EC) The EU Water Framework Directive (WFD) establishes a framework for the protection of rivers, lakes, coastal and ground waters by requiring States to achieve good ecological status for all waters, ensuring that status does not deteriorate in any waters. European Union Member States implement the Water Framework Directive through River Basin Management Plans (RBMPs) in six-year cycles. This process allows for assessment, planning, implementation, and review at regular intervals. Ireland's approach to water quality management has developed over the first and second RBMPs and will continue to evolve into the third cycle RBMP 2022 to 2027 to protect and improve water quality nationally and locally. The draft River Basin Management Plans for 2022-2027 were put out to public consultation for 6 months, which ended on the 31st March 2022. Following consideration of this feedback, it is envisaged the finalised plans will be issued in Q4 2022.	National Surface and Drinking Water Regulations have been enacted since 2007, including subsequent amendments, to give legal status to the criteria and standards to be used for classifying surface waters in accordance with the ecological objectives approach of the Water Framework Directive (WFD). The classification of waters is a key step in the river basin management planning process and is central to the setting of objectives and the development of programmes of measures. Waters classified as 'high' or 'good' must not be allowed deteriorate. Waters classified as less than good must be restored to at least good status within a prescribed timeframe. The environmental targets or goals and the programmes of measures (POMs) to be included in river basin management plans must therefore reflect these requirements. Coillte has been proactive with the regulatory agencies, such as the Forest Service, Inland Fisheries Ireland, Local Authorities, EPA and NPWS, in deriving Programmes of Measures to be implemented by the forest sector in avoiding and/or minimising the potential impact of forest activities on water quality. A central tenet of the POMs is the adherence to the Forest Service Code of Best Forest Practice, and standards, including all relevant regulations and requirements, and the Forest Management Standards for Ireland (National, FSC® and PEFC). To further progress the implementation of the goals of the WFD, Coillte is an integral member of the National Technical Implementation Group for WFD, regional WFD Operational Committees and the Blue Dot Steering Committee.

Sustainable Forest Management (SFM) SFM is the forestry sector's response to sustainable development. Balancing the economic, environmental and social elements is now the accepted way by which forest management is conducted. Forest certification ensures best forest practice is implemented and provides stakeholders with an opportunity to contribute to the management of forests. Compliance with forest certification standards is assessed annually by independent auditors.	Coillte is fully committed to a policy of sustainable management of all of its forests and forest lands. Coillte applied for FSC® certification of its forests in 2000 and were awarded an FSC® and certificate in 2001. Coillte applied for PEFC certification of its forests in 2013 and were awarded a PEFC certificate in 2014. These external forest management certification schemes endorse Coillte's policy of sustainable forest management, balancing the social, economic and environmental aspects of forest management.
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1.5.2 Pests and Diseases

Coillte also respond to external factors that have a significant impact on its forests. One example is the disease *Phytophthora ramorum* also known as sudden oak death which has been detected in a number of BAUs. Another is *Chalara fraxina* which is a serious fungal disease of ash trees. This has caused widespread damage to ash populations in continental Europe and is now widespread across the island of Ireland.

Coillte liaise closely with Forest Service with regard to significant potential threats to our woodlands and will respond immediately to any mitigation measures proposed. In addition, Coillte carry out forest health surveys of its estate and assist in the monitoring of nationally important forest pests such as *Ips typographus*, the eight-toothed bark beetle, where appropriate.

There are four main elements to our Plant Health strategy:

1. Survey/Monitoring

Coillte carries out surveys and health monitoring in order to make an early detection of a major pest or disease outbreak.

BAU surveys

Forest health BAU monitoring is conducted annually in Coillte properties since 2007 with samples sent to the Coillte laboratories for follow up identifications. The process was reviewed and updated in 2019 and the information is now collected directly in the field. BAU annual health surveys are carried out using a standardised forest health assessment form which asks the observer to record any details of ill health observed in the property under survey. The form directs the observer to note any unusual signs and symptoms of ill health, what part of the tree they occur in and what the likely cause may be, including both biotic and abiotic sources.

Coillte supports the Forest Service in carrying out all mandatory surveys required under legislation and specific surveys necessary to support Protected Zone status. Coillte has added seventeen new observation sites to assist in the national monitoring for the bark beetle *Ips typographus*. A recent review was carried out to ensure that extra traps were placed at locations close to possible points of entry for bark beetles.

Forest health observations are also recorded during daily forest operations and noted in the Health Survey form and followed up through sampling where required. Inventory staff provide information on forest health through aerial or remote sensing carried out through their daily work.

2. Education and Training

Pest and disease staff training days are held in conjunction with the Forest Service Inspectors. These training days increase staff awareness of risks from pests and disease. Specific training is carried out in relation to particular diseases such as *P. ramorum*, *H. fraxinea*, (Ash dieback).

Staff awareness information notes are issued in the event of a significant finding that is a potential serious threat such as *Ips typographus* findings in Kent 2019 and 2021.

3. Notification and Communication Procedures

Coillte have a clear plan in place in the event of an insect pest or disease outbreak in the forest. An action plan is developed on how to eradicate or contain the infestation or infection and a communication plan is prepared. Following a suspected outbreak of a significant pest or disease the Outbreak Management Group (OMG) in Coillte are notified and a meeting is convened. The group is made up of the key personnel to deal with the specific outbreak. The OMG meet as required to discuss threats that arise through our outward horizon scanning.

4. Outbreak management

An action plan is developed to identify the extent of the outbreak (via specific surveys as required, assessment of the impact of the outbreak, sanitation or containment protocols, monitoring etc.) In the case of an insect pest or disease outbreak a specific sanitation plan is immediately prepared. Measures are put in place to ensure the infestation or infection outbreak is managed properly and ends quickly.

Sanitation action plans are guided by, agreed and discussed with the Forest prior to implementation. (The Forest Service may inspect sites pre and post sanitation actions being taken.)

The supporting elements to the strategy plan are -

Diagnostic services

The laboratory provides technical support to pest and disease samples. Samples are examined under the microscope for the presence of insect pests or fungal pathogens. Sample pieces are plated out on agar growth media and plant pathogens are isolated and identified from the diseased plant material.

Knowledge transfer and Collaboration

Coillte actively cooperates with other organisations within Ireland and abroad in relation to risk anticipation and is involved in many scientific projects involving different institutions.

Hylobius working group

This group provides a forum for communication and sharing of best practice and key issues associated with *Hylobius* management. (The group represents England, Scotland, Wales, Northern Ireland, Ireland).

This group collaborates, between countries, and actively progresses elements of *Hylobius* management to provide cost effective and sustainable protection to planting stock.

1.5.3 Societal Expectations of Forestry

Irish society, the wider public and local communities continue to remain engaged with our forest management:

- A greater awareness of environmental issues continues to grow amongst the public and local communities.
- Coillte has responded to an increased appreciation of for example, landscape design and of the place of forests in the landscape with policies and practices in relation to forest design and with new approaches to tree felling decisions.
- A higher demand for access, recreational and tourism facilities in forests and in the types of recreation demanded – Coillte practices an open forest policy where all of its forests are open for walking, and has increased its provision of special trails including improved provision of waymarked ways and looped walks, mountain bike trails and nature trails. Coillte frequently enters into partnerships with local communities, local development and tourism groups, county councils, and with development bodies such as Fáilte Ireland, Waterways Ireland and the Fisheries Boards to achieve such provision. Coillte has an ambition to increase its current recreation offerings nationwide.

1.5.4 Dumping / Litter Management

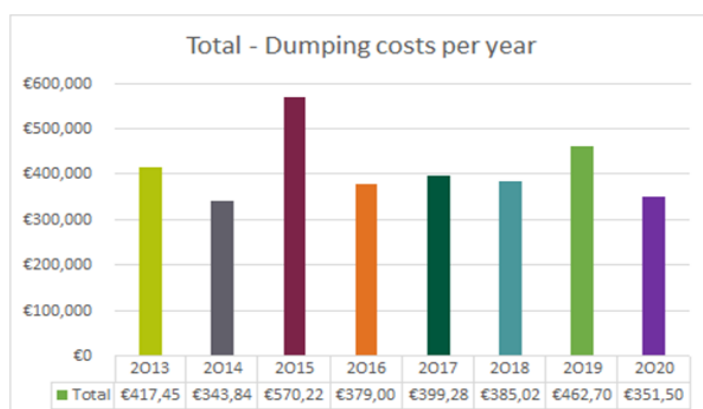
Indiscriminate, illegal dumping and littering is a major problem for Coillte. The large extent of Coillte's estate makes it a target with regard to the illegal disposal of waste. Coillte does not have any control over indiscriminate dumping of rubbish by persons unknown but works closely with Co Councils to seek prosecutions and enforcements where possible.

Coillte manages 440,000 hectares of lands nationwide, equivalent to approximately 7% of total land of Ireland. It has been the practice of the company and its predecessor since the 1970s to operate an Open Forest Policy, whereby the general public are permitted and welcome to use forest lands for non-commercial, informal, recreational purposes. Formal permission is not required in such cases but access is subject to visitors taking due care for their safety, having consideration for other forest users and respecting the nature of Coillte's operations and following the principles of Leave no Trace.

However, the problem of the illegal dumping / fly tipping on Coillte's estate persists. Coillte endeavours to dispose of the waste as promptly as possible, in a controlled way from both a safety and environmental perspective. The intensity of dumping presents a significant financial and management challenge for Coillte. The fly tipping affects the beauty of the countryside and forestry. It is unsightly for local residents and visitors alike.

It is Coillte's policy to try to prevent illegal dumping in its forest estate. This is achieved by:

- Keeping forest entrances continuously locked at inactive sites, where appropriate,
- Locking gates outside work hours on active sites,
- Staff keeping vigilant for dumping during visits to forest properties,
- Periodic CCTV surveillance of dumping black spots – to date we have had only limited success in this area , but will be trailing new equipment in the near future in some of the black spots,
- Assisting the Gardai and Co Councils in prosecuting those caught dumping,
- Partnering with anti-dumping initiatives such as the PURE Project,
- Raising awareness of anti-littering with our partners Leave no Trace Ireland,
- Working with local NGO's and community groups.



1.5.5 Forest Fires

Forest fires pose a serious health and safety risk to the public and to people working in the forest sector. They are very difficult to control and put firefighters and forest personnel at great risk in their efforts to extinguish them. They cause widespread ecological and environmental damage to wildlife and to habitats that can take years to recover from especially at this time of the year when many birds and other animals are raising their young. They also cost significant amounts of money to Coillte and private forest owners; in the costs of operations to control the blaze, in the loss of the value of the standing timber and the additional costs in managing and replanting the burnt areas.

It is Coillte's policy to minimise areas damaged by fire with effective prevention and fire control measures. Forest fires can occur through the year but the risk is greatest during dry spells from March to June when ground vegetation is dormant and dry. Fire Plans are developed for all forest properties including a map showing access routes and assembly points for fire-fighting personnel, equipment and potential sources of water.

As part of Coillte's health and safety programme all Coillte personnel and selected volunteers involved in fire-fighting duties must attend a one day Coillte fire training course. The one day course aims to equip everyone with the skills and knowledge required to carry out forest fighting duties in a safe and effective manner. On completion of training they will receive a certificate and a fire grab bag containing personal supplies relevant to firefighting.

BAU Team Leaders have the authority to avail of helicopter services based on input from Operations Managers, and in consultation with National Estates Risk Manager, if necessary. Helicopters will be equipped with bambi buckets. A helicopter could be considered for a number of uses:

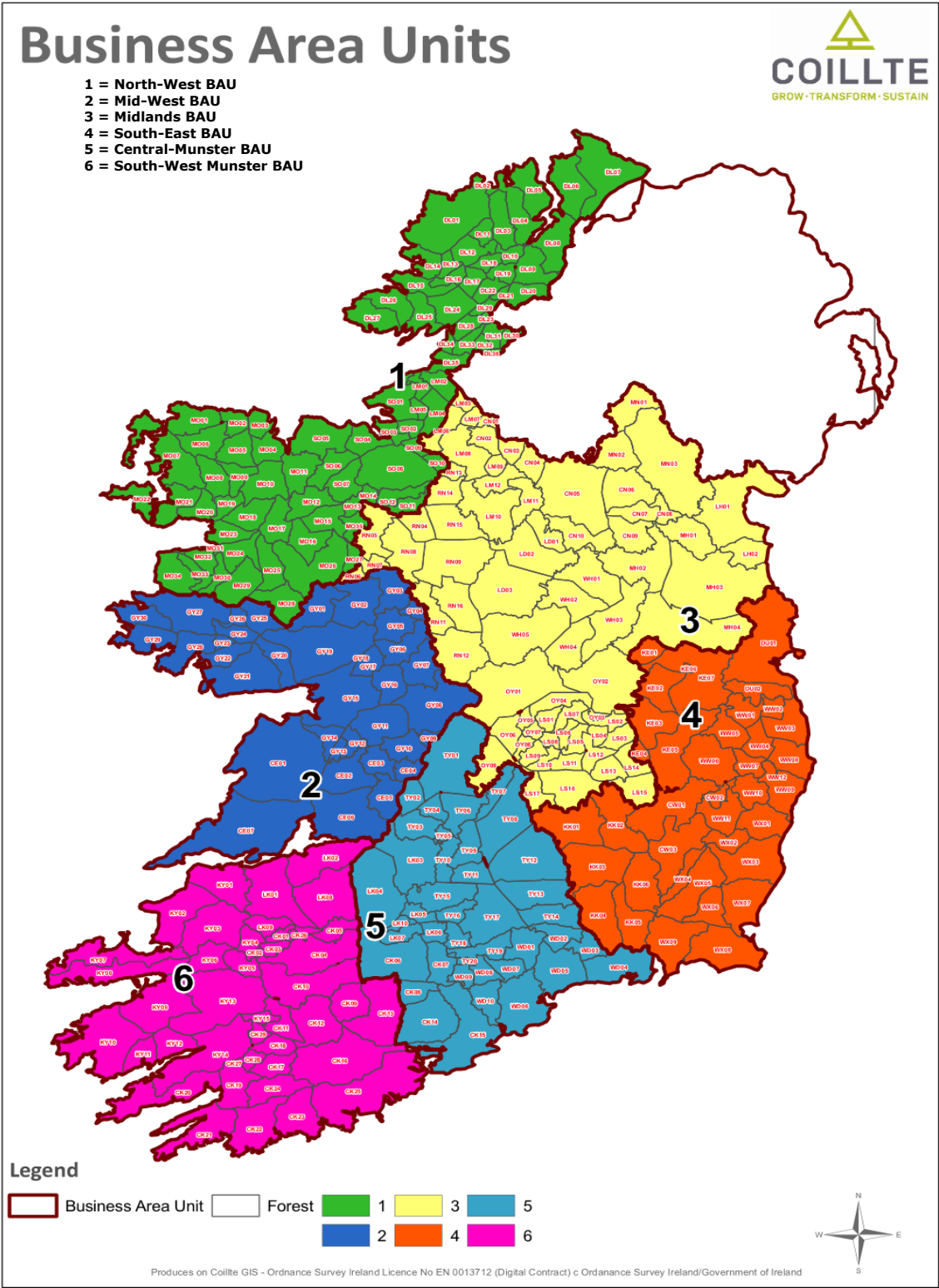
- Surveillance of fire
- Transportation of staff and equipment
- Fire fighting

Coillte ask for vigilance from the public in relation to Forest fires and to act if required by

1. Reporting directly to the emergency services any sightings of a fire
2. Reporting any suspicious activity in relation to fire or any knowledge of attempts to light a fire
3. Not lighting campfires or charcoal barbecue sets on Coillte property, except in designated areas

1.6 Coillte BAUs

Coillte's estate is divided into 6 Business Area Units (BAUs).



Coillte has developed plans for each of these BAUs, called Five Year Forest Plans which describe Coillte's forests and other assets in the area, and set out a vision for their management. The last planning cycle was for 2016-2020. These plans refer to the incoming planning cycle 2021-2025, which were delayed due to Covid-19 pandemic.

Coillte also convenes annual consultation meetings* for each of its BAUs. Plans are discussed with stakeholders to help Coillte to understand social, recreational and environmental issues as well as opportunities and concerns in each BAU.

**Due to the health crisis in 2020 and 2021, BAU consultation meetings could not be held. Plans are underway to host consultation meetings during 2022 (in line with government health advice).*

1.7 Summary on the Various Levels of Coillte

Forest Management Planning

The **BAU Five Year Plan** sets out the economic, social and environmental strategies and priorities for the long and medium term in the BAU and gives a clear direction for the management of the forests at local level for the next five years. The plans are developed in consultation with a wide range of stakeholders both internal and external to the company. Input from external stakeholders (individuals, communities, NGOs and statutory bodies) are sought during the consultation process, feedback is considered and where feasible, is incorporated into the plans. The Forest Management Unit (FMU) planning requirement, for Forest Certification, is achieved through the BAU Five Year Plan process.

An Activity Pack is built when site-level planning is initiated for activity within each Harvest Unit and describes how the plan will be implemented for the operation managers, workers and contractors. Social and environmental impacts, including consultation, are assessed through Coillte's environmental risk assessment process and measures are written into each site management plan.

All levels of planning feed into the annual **BAU Operating Business Plan and Work Plan**. These plans focus on the tasks/targets to be achieved during the year and outline the necessary resources (financial and personnel) required.

The BAU is the Forest Management Unit and is built from smaller spatial entities, the largest of these being the Forest Unit. Key activity levels within each Forest Unit are further broken down in [Appendix V](#). Further to this appendix, a Webmap is publicly available online to view areas with proposed tree felling in the review period. [Click here](#) to access the Webmap.

2. Midlands BAU

2.1 The Midlands BAU

All BAU's play important roles in achieving Coillte targets and objectives. The Midlands BAU of Coillte Forest encompasses 10 Counties of Cavan, Longford, Louth, Meath, Monaghan, Offaly, Westmeath, Laois, Roscommon along with a large area of county Leitrim.

It is Coillte's largest BAU covering 1,675,019 hectares or nearly 25% of Ireland. Within this area, Coillte owns 71,318 hectares (4.26%), of which, just over eighty percent is forested with the remainder mostly moorland, marsh and lakes.

The population within the BAU is approximately 850,000, distributed across a few large towns and many smaller towns and villages.

Given the geographical spread of the BAU, geology and landform vary from drumlin rich soils to the north, the low lying plains in the midlands where peat is the dominant soil type to the slopes of the Slieve Bloom in the South where varied soil types occur. There is a high proportion of lakes dispersed throughout the BAU all of which are mapped and recognised fully within our management prescriptions.

The low-lying plains typically found within this midlands BAU are frequently affected by late spring frosts which limit the use of Sitka spruce but are suitable for Norway spruce and other diverse species production. Ravensdale forest in north Louth is capable of producing high quality Douglas fir. One of the largest broadleaf plantations in Ireland, extending to 362ha, is located in the midlands BAU in Mullaghmeen and Half Carton on the Westmeath/Meath border.

2.2 Forests and Forest Products in the Midlands BAU

A map of Coillte's Forests in the Midlands BAU can be viewed in [Appendix VI](#).

During the 2016-2020 period the BAU produced approximately 1.65 million cubic metres (m³) of wood products. Coillte's timber production supports the Irish sawmilling sector with our customers in the period 2016-2020 primarily being ECC, Glennons, Murrays, Balcas, Laois and Coolrain sawmills. Our BAU is also a major source of wood fibre for Coillte's board mills in Clonmel and Waterford. During the last five year period we have also worked with Bord na Móna (BNM) to provide wood fibre for chipping to offset Peat production. Within the BAU we also support both the stake industry as well as the provision of Firewood material to both merchants and the general public in the region.

Forest Products

Private Timber

Coillte is the largest producer and consumer of pulpwood in Ireland. Coillte's strategy is to supplement its own supply through the purchase of private timber, where appropriate. For further information please check the Coillte website at www.coillte.ie

Farm Partnerships

This scheme is where Coillte and a farmer form a joint venture (partnership) by agreement whereby Coillte plants and manages the plantation for the life of the crop. At all times ownership of the land remains with the farmer. Currently we have 119 farm partnerships within the BAU. This number is not expected to increase in the lifetime of this plan, as we are no longer engaged in this area. We will continue to fully support our existing partners.

2.3 Community, Recreation and Tourism Facilities in the Midlands BAU

Coillte has an open forest policy and welcomes all visitors to its forests according to the principles of Leave no Trace. Coillte has a long association with the communities, clubs and individuals who use the extensive forest network. The development of recreational facilities and activities in line with Coillte's Recreation policy are some of the many ways Coillte can contribute towards the "public good" value of the estate. This can be achieved through partnerships, permits and ongoing relationships that respects the sustainable use of our forests for future generations. The BAU recreational activities contribute to the social, environmental and economic life within the

BAU boundaries.

Many recreational facilities are the result of a joint initiative between Coillte and local communities, indeed the preferred method to create new facilities is partnership and collaboration. Some examples of this include:

- **The Burren, Cavan** – A cross-border UNESCO designated Geopark, encompassing the mountainous areas of West Cavan and Fermanagh developed in partnership with Cavan County Council.
- **Rossmore Forest Park** was upgraded in partnership with the Monaghan County Council with the walks upgraded in cooperation with the Monaghan Phoenix Athletics Club.
- **Brittas Lake** is a community partnership between Coillte and Clonaslee Community Development Association for the development of Brittas Lake.
- **The Slieve Bloom Mountain Bike Trail** – developed in partnership with Laois and Offaly County Councils.
- **Ballynagall South/Scragh Bog Nature Walk** – this was a joint venture between Coillte and the National Parks and Wildlife Service near Mullingar, County Westmeath.
- **Rathcline Native Woodland walk** – developed in association with Lanesborough Tourism Group and Longford County Council.
- **Drewstown Woods - Girley Bog Loop** – developed in association with Meath County Council.
- **Mote Park, Co Roscommon** – Native woodland developed in association with Mote Park Conservation Group, supported by Forest Service funding.

Many Coillte forests in this BAU are expansive and offer multiple activities such as walking, hiking, multi access, fishing, picnicking, watching wildlife, canoeing, field archaeology or simple enjoyment of the outdoors.

This BAU currently has 55 designated areas for recreational activity, and these are detailed on the Coillte website <http://www.coillte.ie/our-forests/explore/> and are also listed in 'Discovering Ireland's Woodlands' (Coillte) booklet under counties Cavan, Longford, Louth, Meath, Monaghan, Offaly, Westmeath, Laois and Leitrim. A table describing the recreational values of the BAUs sites is available in [Appendix III](#).

There are also a number of Waymarked Ways passing through Coillte property in the BAU. These include the Slieve Bloom Way, The Cavan Way, The Westmeath Way, The Monaghan Way and the Tain Trail, Offaly Way.

Coillte has also developed a number of looped trails in conjunction with Fáilte Ireland, under their Looped Walks Programme including, Brittas, Mullaghmeen, Ravensdale, Killashandra Castle Lake & Forest Walk, Bailieborough, and there are 4 looped walks in Monaghan in the Bragan mountains.

Coillte welcomes the opportunity to work with local groups and authorities to develop further recreational facilities including loop walks subject to the availability of funding. The Coillte website has a proposal form open to the public to submit new ideas or suggestions <https://www.coillte.ie/our-forests/explore/permits/>.

Currently a dedicated Mountain Bike Trail is being developed in the Slieve Blooms in Counties Laois and Offaly. Once completed forest operations will have to be managed to ensure the safety of the MTB trail users.

Coillte actively engages with local communities and other partners to resource the management and maintenance of this valuable recreational offering.

2.4 Cultural and Archaeological Heritage in the Midlands BAU

Coillte is aware of some 387 archaeological sites and sites of cultural significance in its landholdings in the Midlands BAU. These monuments include megalithic tombs of different kinds, Cashel's and other enclosures along with crannogs. A summary of archaeological sites in the BAU is provided in [Appendix I](#)

With support and advice from the National Monuments Service (NMS), Coillte has developed a Code of Practice in order to protect this archaeological and cultural heritage.

Many historical land acquisitions contained farmsteads and features representing rural life in the 19th and early 20th century. These are identified and protected within forest management practices and identified when proposals for sales are being developed. They are evaluated in terms of their social and historical value and a plan implemented for their preservation.

The BAU has always and will continue to support sites of cultural and literary heritage within its estate. Examples, include the heritage bridges at Kinnitty Castle, the Temple in Dartrey and the Burren in Co. Cavan. On an ongoing basis our staff will continue to identify, protect and record all new items of heritage which are discovered on Coillte lands.



Picture – Kinnitty Bridge restoration Co.Offaly, Dartrey Temple Co.Monaghan

2.5 Coillte Biodiversity within the Midlands BAU

Habitats and features of biodiversity value on the Coillte estate are identified, mapped and protected during forest operations.

The table below shows that approximately 14,441 ha of Coillte land in the Midlands BAU is protected during operations or enhanced to increase its biodiversity value. This equates to approximately 20% of all Coillte land in the BAU.

Areas protected or managed for biodiversity are spread across the BAU area and vary widely, both in terms of their size and in terms of the habitat type present.

Broadly, there are three main types of site protected for their biodiversity value: Biodiversity Areas, Biodiversity Features and Riparian Buffers. Biodiversity Features and Riparian Buffers can occur anywhere on the estate, including within Biodiversity Areas, so there is some overlap between these three categories.

Bio Ref	Description	Area (ha)
Biodiversity Areas	Habitats that have particular ecological value as identified and mapped by ecologists	11,801
Biodiversity Features	Small features (usually <2ha) that add biodiversity value to the forest stand, protected during forest operations	1,173
Riparian Buffer Strips	Strips of land that adjoin streams, rivers and lakes, and are managed for their protection.	2,465

Biodiversity Areas

Biodiversity areas are essentially habitats of nature conservation value that occur on the Coillte estate. They vary widely in terms of the habitat type present and in terms of their ecological value. They are widely spread across the BAU. Examples of some of the areas within our Bioclass management are

- Mount Jessop Bog – Co. Longford
- Lough Rynn – Co. Leitrim
- The Island – Co. Laois
- Shanderry – Co. Laois

- Oakwood – Co. Cavan
- Ravensdale – Co. Louth

Biodiversity areas are essentially areas that contains habitats and species of nature conservation value that occur on the Coillte estate. They vary widely in terms of the habitat types present and their ecological value. Between 2001 and 2005, Coillte undertook a major ecological survey, aimed at identifying habitats throughout the estate that had some particular value for nature conservation. A preliminary review of Coillte's forest inventory, along with the extensive knowledge of Coillte's foresters, revealed the location of potential biodiversity areas within a broad range of site types. Ecologists surveyed the potential biodiversity areas, and assessed their habitat value, based on standard scientific principles. Following consultation with Coillte forest managers, most of the sites identified in this survey were adopted as Coillte biodiversity areas. Also recorded are riparian buffers, which are mapped along streams and rivers and converted to open habitat and/or scrub, in order to protect water quality. The biodiversity areas were incorporated into the forest management planning for the BAUs.

Coillte have since developed BioClass, a science-based procedure for assessing the ecological value of biodiversity areas within the Coillte estate. This system categorises biodiversity areas into four BioClasses. These range from BioClass 1, the areas of highest ecological value, to BioClass 4, areas that currently have low-to-moderate value but may have potential to develop in future into habitats of high ecological value. In general, sites that most closely resemble natural habitats have the highest value for biodiversity. Based on a review of biodiversity indicators, published in the scientific literature, we have worked with experienced consultant ecologists to define "naturalness" in terms of a series of natural values and biodiversity features which indicate the value of the site for biodiversity. The benefit of BioClass is that the biodiversity information is summarised and provided to Coillte staff in a more accessible manner.

Approximately half of Coillte's biodiversity areas are forest habitats: native forests, broadleaf forests, mixed conifer-broadleaf and conifer forests. Also, half of the biodiversity areas are open habitats: mostly bogs and heaths, with some specialised habitats such as limestone pavement and coastal habitats. Some biodiversity areas have very high ecological value and are significant at national or international level, while others are of moderate value and are significant at a more local level.

Each year, the Coillte Ecology Team works with the BAU to prioritise biodiversity areas for management action using a biodiversity register of all the biodiversity areas within the BAU. These sites are identified on a rolling programme each year.

Old Woodland Sites

Coillte recognises that woodland sites with a long history of woodland cover have potential ecological value. Old Woodland Sites (OWS) are sites that have been wooded since the 1830s. Old woodland sites are variable in terms of their biodiversity value – some show no remaining evidence of the former (pre-plantation) forest cover. However, there are sites where remnants of a former, ecologically mature forest remain clearly in evidence, e.g. veteran trees, large-dimension dead wood and well-developed woodland ground flora. These old woodland sites have the best biodiversity value, and as such, they are identified and managed as biodiversity areas.

Coillte policy is to assess and survey all OWS in advance of clear felling or high-impact operations. Any site identified as having many natural features present is brought to the attention of the company's ecologists for assessment and, based on the findings of the ecological assessment, is then mapped and managed as a biodiversity area.

Biodiversity Features

Biodiversity features are small features (usually <2ha in area) that have value for biodiversity. They occur across the whole estate and are protected wherever they occur. The types of biodiversity features that occur on Coillte sites include: small pockets of open habitat within the forest (usually heath, bog or small wetland); small stands of scrub (broadleaved scrub or open stands of poorly-grown conifers); locations of particular species of flora and fauna; veteran trees or deadwood.

Coillte staff and contractors continue to find, map and protect biodiversity features on operations sites.

Riparian Buffer Strips

Riparian buffer strips are portions of Coillte sites that run alongside watercourses (rivers, streams or lakes). In all forest operations, the standard width of buffer strips is 10-15m. This width may be increased on certain site types. The creation and management of riparian buffer strips is described in standard documents produced by the Forest Service of the Department of Agriculture, Food and the Marine.

The purpose of buffer strips is to protect watercourses from any potential damage that may arise during forest operations. Conifer trees that were planted in riparian buffer strips in the long-distant past (when forestry policy was very different to today) are removed and the strip is either left open to revegetate naturally. Sometimes, clumps of native broadleaves are manually planted in the buffer strip.

Over time, the buffer strips develop into open habitat or scrub alongside the watercourse or lake, and have considerable wildlife value. As with the biodiversity features, the area of riparian buffers increases over time, as more are mapped on operations sites and converted to open habitat and/or scrub.

2.6 High Conservation Value Forests (HCVF) within the Midlands BAU

Coillte's certification process requires that we identify areas of high conservation value forests (HCVF) across the forest estate. High conservation value forests are areas, not necessarily under forest, that are considered nationally or internationally important for nature conservation and have recognised conservation values associated with them. Two high conservation values have been identified for Coillte estate namely:

1. Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (HCVF 1);

The main focus of this HCVF criterion is protection of species (plants and animals), and the objective is to protect sites that contain important locations for species considered to be endangered.

2. Forest areas that are in or contain rare, threatened or endangered ecosystems (HCVF3).

The main focus of this HCVF criterion is protection of habitats that are considered to be rare or endangered. The objective is to protect sites that contain these habitats. In Ireland, HCVF is defined as sites that have a statutory designation for nature conservation, either nationally under the Wildlife Act as Natural Heritage Areas (NHA) or under European Law (Habitats Directive) as Special Areas of Conservation (SAC) or Special Protection Areas for birds (SPA). The selection, mapping and designation of sites for nature conservation is conducted by the National Parks and Wildlife Service.

HCVF areas may be quite large, such as Special Protection Areas in the west of Ireland for hen harrier conservation, or they may be quite small such as an old house within a forest which hosts an important roosting site for bats. They may also occur on non-forested lands such as the Atlantic blanket bogs in the west and the raised bogs of the midlands.

There is some overlap between HCVF and Coillte biodiversity areas. Some of the large SPAs contain extensive habitats that have low intrinsic ecological value, but that form part of the territory of the bird(s) for which the SPA is designated (hence the large areas of HCVF that doesn't overlap with Coillte biodiversity areas).

Under Article 6(3) and 6(4) of the EU Habitats Directive, all forestry operations throughout the Coillte estate undergo Appropriate Assessment screening to determine if there are any likely significant impacts on the Qualifying Interests (QIs) of SACs and SPAs (i.e. HCVF). If it is concluded that significant impacts are likely, then a full Appropriate Assessment is required which identifies the mitigations required to ensure there are no impacts on these designated sites and their QIs.

The table below shows statutory designated areas and HCVF in the Midlands BAU. Areas shown are in hectares (Ha).

Designation	Area (ha on Coillte lands)
NHA* – Natural Heritage Area	842
SAC* - Special Area of Conservation	3,041
SPA* – Special Protection Area	13,426
Nature Reserve	184
pNHA	4,243
TOTAL HCVF	18,367

(*Overlap occurs between categories)

2.7 Species and Habitats in the Midlands BAU

Conifers dominate the species profile in this productive BAU, with Sitka spruce being the core species at 50%. Other conifers make up 15% of the canopy with the majority lodgepole pine (8%) being used on the poor marginal areas or as a nurse species. There is a significant area of broadleaf species (26%) adding further to the BAU species diversity and habitat enhancement. Our midlands BAU contains some forest habitats of nature conservation value including native woodlands, mixed broadleaved woodlands and mixed conifer-broadleaved woodlands.

Notable animal species in the BAU include freshwater pearl mussel, hen harrier and wood ants (full list in Appendix II). Notable species include rare, threatened and endangered species that are IUCN Red List species (in most cases also listed on Annex II, IV and V of the EU Habitats Directive or Annex I of the EU Birds Directive) plus other species of local or regional ecological interest. Our cover page depicts a red squirrel heading for the canopy within a beech woodland at Emo Park in County Laois.

The BAU aims to maintain and where possible enhance habitats of ecological value and to protect those that support species of nature conservation interest. Biodiversity areas within the BAU aim to protect and enhance HCVF and therefore include designated sites (SAC, SPA, NHA and pNHA), priority habitats (e.g., raised bogs) and OWS.

All licenced forestry operations are subject to Appropriate Assessment (AA) in order to determine if they are likely to have a significant impact on sites designated for nature conservation as Special Areas of Conservation or Special Protection Areas. AA is an ecological assessment which aims to protect rare, threatened and endangered habitats and species (HCVF). The AA process determines if there are potential significant impacts key species or habitats of high nature conservation importance (Qualifying Interests) (e.g., freshwater pearl mussel, blanket bog, hen harrier). If there are potential impacts, mitigation measures are detailed in a Natura Impact Statement. In addition, the ERA (Environmental Risk Assessment) process aims to identify potential impacts on several environmental receptors including biodiversity (e.g., badger setts), and to identify suitable mitigations.

Appendix II details the main habitats and species of interest within the BAU (some occur within designated sites such as SACs, SPAs and NHAs i.e., HCVF, while others incorporate habitats and species of wider ecological value). The management approach is described in brief.

2.8 Invasive Species

Within the BAU there are a number of species that are not native to Ireland and which are capable of having a very negative effect on native biodiversity. Most notable of these species is that of Rhododendron which is a significant issue within some of our properties. Other invasive species found in the BAU include Laurel and Japanese knotweed which are now of equal concern. Annually the BAU undertake work to help eliminate these species.

In line with international best practice, when controlling invasive species (including *Rhododendron*), the BAUs resources are focused on priority sites based on:

1. The site's uniqueness (e.g. whether or not they are Priority habitats, as per EU Habitats directive),
2. Whether the presence of *Rhododendron* is likely to facilitate the spread of the exotic disease *Phytophthora ramorum*.
3. The site's intrinsic ecological/biodiversity value (e.g. are they High Conservation Value Forests or biodiversity areas).
4. The social value of the forest (e.g. the extent to which the forest is used as a recreational facility/proximity to urban population).

Sites within Business Area Unit 3 are prioritised according to the above criteria. Most recent control of *Rhododendron* during 2020 was at 3 properties Castlesheane, Kilronan and Dun a Rí. The following sites are prioritised for control of invasive species; Knockdrin, Castletown, Derrycarne, and Glassderry.

2.9 Water Quality and Protection in the Midlands BAU

In terms of water, while there are numerous water bodies the main river bodies in the BAU are the Shannon, Suck, Erne, Boyne, Barrow and the Nore. The rivers and lakes of the area support important salmon and trout fisheries and this is also important to the local economy.

A list of all catchments and sub-catchments located in BAU 3 is provided at Appendix VI and all relevant maps and water quality status are publicly available at www.catchments.ie

Coillte abides by all Forest Service Guidelines, Regulations and Requirements regarding protecting water quality, and in particular Standards for Felling and Reforestation (2019) and Environmental Requirements for Afforestation (2016), which detail sound and practical measures for handling forest operations in proximity to waterways. As the largest landowner Coillte has a responsibility to ensure that its actions do not negatively impact on water quality. Within the BAU the following are the most significant issues relating to water:

- Water abstraction for domestic use
- Presence of the rare fresh water pearl mussel species
- Presence of important salmonoid rivers, such as the Boyne and Nore.

When planning forest operations the issues listed above are considered. During this process, a wide range of industry, community and environmental regulators are consulted, including the Forest Service, Inland Fisheries Ireland, NPWS, and local authorities, particularly with regard to the potential impact of forest operations in proximity to environmentally sensitive waterways.

Coillte actively plays its part in protecting the water bodies water quality. Prior to the commencement of all forest operations, an Appropriate Assessment (AA) screening is conducted in order to determine if there is any potential impact on aquatic Qualifying Interests (QIs) for European sites that are hydrologically linked to the project area. If a full AA is required, a Natura Impact Statement (NIS) is produced, which outlines the mitigations that will be applied to protect aquatic QIs. These mitigations include the standard measures that are applied to protect water quality (DAFM 2019) such as exclusion zones adjacent to aquatic zones during clear-felling operations and establishing setbacks at the reforestation stage. Reference is made on how the trees are to be removed and prohibition of machinery movement in the exclusion zones during forest operations. Additional non-standard mitigations are applied as required, depending on the nature of the operations, the site characteristics and the sensitivity of any receptors. These may include restricting the timing of operations, establishing wider setbacks or low impact cultivation methods.

If the proposed forest operations site is judged to be water sensitive (as identified in the ERA process), a water monitoring programme will be put in place. This will comprise of daily visual assessment and recording of surface waters draining the site during operations and the immediate adoption of appropriate contingency measures where discolouration of the water is observed. On the most sensitive sites, this monitoring process is backed up with short-term water sampling. Typically, this sampling would be of short to mid duration, lasting a few weeks to several months, depending on the duration of the forest operation. Sampling consists of taking

samples from the main tributaries draining the forest site, before, during and after operations are completed.

The adherence to the EU Water Framework and Habitats Directives, has significant implications for forest management in the BAU. It highlights the potential pressures of forests on water quality and increased risks from erosion and sedimentation. The need to move away from monoculture blocks of forests towards restructured forest stands has been recognised in the BAU. When restocking after clear felling, an extensive network of new buffer zones will be established to protect adjoining watercourses. Drainage and cultivation practices on these sites are also designed to minimise their impact on local water. Coillte will continue to work closely with the relevant statutory bodies and assist where possible with their water and fishery rehabilitation plans

2.10 Forest Management Issues

Coillte's Midlands BAU faces a number of issues while aspiring to managing its forests effectively not only for production but also for their recreational, environmental and social benefits through our open forest policy. Over the past five years these main issues have included:

- Illegal dumping at both household and commercial scale
- Forest fires
- Inappropriate recreational area usage and anti-social behaviour
- Domestic animal trespass to include Horses , Goats , Sheep , Cattle
- General security breaches including entrance barrier damage.

Coillte implemented by-laws for access to and use of Coillte managed lands. Recreation sites where there are ongoing issues such as illegal access on motorised vehicles, dumping, anti-social behaviour etc. will be prioritised as candidate sites for installation of the relevant signage. These bye-laws may be enforced by the Garda Síochána and offences may be liable to a fine and/or imprisonment. Coillte have supported the development of new national enforcement powers which will make it an offence to use a scrambler or quad bike on public or private lands, including Coillte lands, without the permission of the landowner. These new laws will afford Gardai the power to seize scrambler bikes and other off-road vehicles.

2.10.1 Deer Management

Wild deer on Coillte's estate managed in accordance with accepted principles of Sustainable Deer Management (SDM) whereby, the conservation, control and use of the species will be balanced in order to achieve an integrated and collaborative solution to achieving viable deer populations across the Coillte estate at levels which are in harmony with their environment. To this end Coillte maintain Deer Management Plans (DMP) for areas where deer are present. Coillte's summary deer management policy can be viewed here [**Deer Management Policy**](#).

Wild deer are present on over 60% of the Coillte estate. Through browsing and bark-stripping trees, deer can have a considerable negative impact on any tree crop and on tree species selection as well as the quality, yield and survival of forest crops. Deer can also impact land use objectives on neighbouring lands and can be a major health and safety hazard, particularly on public roads.

Deer are wild animals free to roam across large areas of multiple land ownerships. They are a protected species, and one which attracts considerable attention and differing views as to how they should be managed. A key aspect of successful deer management is establishing a collaborative approach between all key stakeholders within the deer's range at landscape level. A considerable element of this process is the acceptance of shared responsibility by all landowners in the area of their role to ensure the effective management of the deer utilising their lands.

Coillte have demonstrated considerable commitment and leadership in recent years in developing collaborative deer management and the establishment of training standards for deer hunters. At National level the company was instrumental in the establishment the Hunter Competence Assessment programme and the Irish Deer Management Forum. This group went into abeyance following the retirement of its Chairperson but moves are afoot to re-convene this forum shortly. In addition, Coillte have been central to the roll-out and adoption of a new on-line Hunter Area Management System (HAMS) within the hunting community in Ireland. At Regional and local level Coillte are active participants in a number of deer management partnerships and groups.

The impacts to Coillte's crops are generally localised, predominately in areas with high deer density. A breakdown of deer species abundance has been gathered countrywide coupled with damage inflicted on crops. Damage is mainly confined to the browsing of broadleaved trees and some more palatable conifers such as Scots pine, Douglas fir, Larches and Norway spruce.

Deer populations are principally controlled through the issue of hunting licences managed centrally within each BAU.

Deer management in Coillte is coordinated nationally through a new deer oversight group which was established in 2020. This group is comprised of staff from Coillte's Estates, Operations, Public Relations and Recreation teams.

Coillte's summary deer management policy can be viewed here **Deer Management Policy**. As part of planned work for 2021, Coillte's Deer Oversight Group will review and update our current deer management policy and all supporting documentation

3. The Midlands BAU Five Year Forest Plan

We are very fortunate in this BAU in the richness and pristine quality of much of our environment, our wild natural resources and the presence of habitats and landscapes that are cherished both at home and internationally. We aim to maintain and enhance these assets while balancing the requirement to realise for the state and its people the enormous investment that has been made in Irish forestry over the years.

3.1 Vision

The long-term vision for the BAU is one of forestry management at an intensity and scale that is appropriate to the environmental sensitivity and productivity of its land resource. By adopting policies that ensure our efforts are concentrated on timber production in some Forests, habitat restoration in other, along with recreational usage being prioritised in many woodlands close to urban areas we will maximise the benefits to the environment, local communities and the timber processing industry.

This vision includes:

- forestry will be a vibrant industry in the area, integrated into the local economy, providing employment opportunities in the forest, the timber industry and in many downstream activities;
- natural and semi-natural habitats are protected and enhanced through appropriate management;
- there is continuity of forest habitat for rare and threatened species;
- provide a range of recreational activities in our forests to support societal health and well-being;
- forest recreational sites will be a part of the tourism infrastructure and will be an important contributor to the tourism economy;
- sharing our plans with local communities, NGO's and interested stakeholders.

3.2 The Forest Resource and Wood Production

Our BAU is committed to managing our resource sustainably. In this regard we must ensure that our forests continue to grow at a rate greater than timber harvesting removals. Doing so ensures that timber revenues are available for continuous re-investment into replanting and maintenance operations.

The Coillte Estate

It is Coillte's policy to achieve the maximum value potential of the estate consistent with sustainable forest management principles (see Section 4).

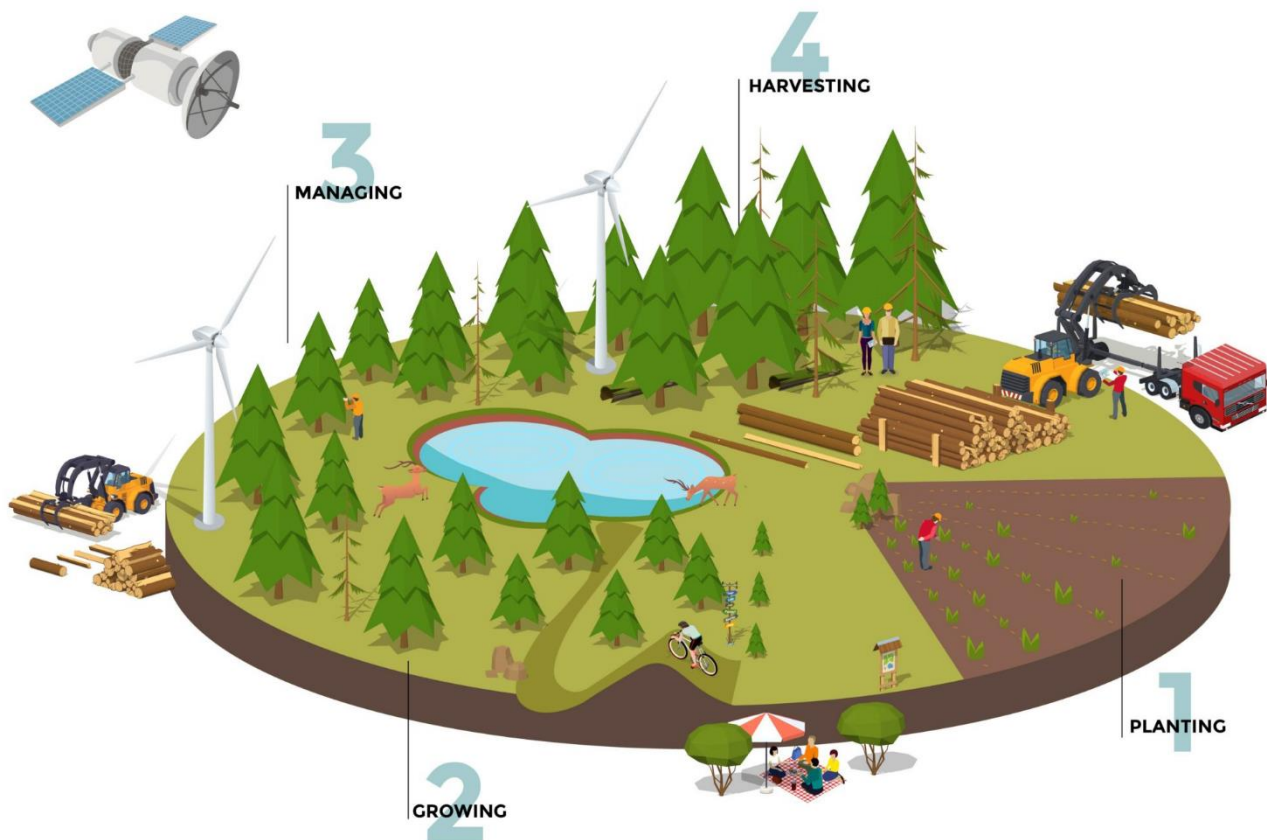
Key Objective 1

In the Midlands BAU, Coillte aims to produce approximately 2,560,000 cubic metres (m3) of wood from its forests between 2021 - 2025.

Of this 2,122,000 m3 will be through felling and 438,000 m3 through thinning.

Where the opportunity arises we will acquire new lands for forest planting in the Midlands BAU during the 2021-2025 periods.

Figure 1: The Forest Cycle



Timber supply comes from two main sources, clear fell and thinning events.

- Clear fell** is the most common silvicultural system used in Ireland and the UK due to the prevailing forest culture and has predominated over the past century characterized by the establishment of new forest plantations. The extent of clear felling annually is strictly controlled both externally and internally. Externally, the extent of annual clear felling is subject to statutory control by the Forest Service. Internally, control is exercised by the Coillte policy of 'Sustained Yield'. Sustained yield allows our forests to grow and be harvested at a level that is capable of providing a continuous supply of timber for current and future generations. Coillte has introduced a number of Low Impact Silvicultural Systems (LISS) which will apply to some suitable forests in our area. The clear fell system will, however, remain the dominant silvicultural system in the BAU during the plan period. This involves the removal of all marketable trees from an area at the end of the rotation (usually at between 35 to 45 years of age). Due to the poor fertility and the exposed and unstable nature of our sites there is very little scope for alternative systems that remove mature trees more gradually. At clear fell time considerable effort is now put into restructuring by adjusting felling coupe size and shape to satisfy both environmental and landscape design purposes. Low Impact Silvicultural Systems (LISS) such as 'Small Coupe Felling', 'Change to Broadleaf' and 'Continuous Cover Forestry' are all in practice within the BAU and it is intended to expand this level where possible during the plan period.
- Thinning** is also a natural part of forest management and it involves staged removals of a proportion of trees in a forest over a rotation, and it is a necessary part of standard forestry practice worldwide. Thinning improves the quality of the forest by regulating the space and light provided to trees as they grow. In line with international best practices, Coillte aims to thin where possible all forests to maximise the quality and volume returns from the estate. Thinning will only occur where the practice can be sustained, namely in forests with

no stability threat from high winds. High winds and exposure in the BAU is a limiting factor to thinning in certain areas. As such thinning is effectively concentrated in certain areas of the BAU where it is not as exposed and deemed to be more stable. Historically, because of stability concerns, there is limited standard thinning prescriptions used in this BAU with most thinning events having 2 or max 3 interventions. The experience in the BAU to date is that thinning in excess of 3 interventions more often results in wind blow and are therefore the benefit does not outweigh the risk.

All felling is controlled by the Forest Service which issues felling licences as appropriate under the Forestry Act, 2014; an act which provides for the development and promotion of forestry in a manner that maximises the economic, environmental and social value of forests within the principles of sustainable forest management. Coillte will ensure that all harvesting operations meet Forest Service license requirements and are planned at site level, with full assessment of environmental impact, landscape sensitivity, local consultation requirements and relevant site issues.

All felling proposals for either clear felling or thinning will be consulted on in advance with local authorities, Inland Fisheries Ireland and also the National Parks and Wildlife Service; their recommendations are then fully considered. In addition, Coillte's felling plans are also made available to the public via Coillte's online mapviewer hosted on the Coillte website [here](#) and updates to these plans are notified to registered stakeholders on an annual basis. If you wish to register as a stakeholder which ensures you are notified please refer to the contact page on our website for further information.

New planting and replanting

Coillte will fulfil its obligations to replant felled areas in accordance with the terms of felling licences. Typically felled area will be replanted in the next planting season after felling.

Key Objective 2

In the Midlands BAU, Coillte aims to replant approximately 7,644 ha by 2025.

Forest Roads

Forest Roads are an essential element of forest infrastructure. They provide access for management, harvesting and transport of timber and enhance the recreational potential of forests. A number of kilometres of new road are constructed each year in the Midlands BAU and there is also the need for maintenance of the existing road network. Where required, we engage with each local authority in relation to areas for harvesting, associated timber volumes and designated haulage routes for the current plan period. Our engineering staff have indicated the optimum layout of our road network and we are gradually extending the roads to this point. This work is ongoing and will not be complete within the timeframe of this plan.

The priority for the road infrastructure in BAU 3 over the duration of this plan is to;

- construct approximately 12 km annually of new roads in our forests
- maintain the existing road infrastructure
- ensure the roading infrastructure complements and supports harvesting access to the forest
- develop road access to areas that are currently inaccessible
- Where required licences to construct the new roads will be obtained from the relevant regulator who consults with regulatory stakeholders as part of the licencing process

Key Objective 3

In the Midlands BAU, Coillte aims to construct approximately 61 km of new roads by 2025.

Factors Affecting Timber Supply

A number of considerations affect the volume of timber that Coillte can achieve from its forests:

- **Accessing timber crops** can be challenging with both internal (right-of-way issues, poor internal access) and external (right-of-way issues, county council roads/bridges etc.). To address the access issue a list of all relevant areas is currently compiled and these will be prioritised on the basis of timber supply and a plan put in place to address potential issues by assigning relevant personnel. The BAU will consider the use of partnerships to help resolve/contribute to access difficulties on a site by site basis. In addition, a review of the road infrastructure will occur and all new haulage routes will be identified in conjunction with local authorities within BAU 3 with a view to improving access.
- **Nutrient deficiencies** The Midlands BAU overall is a fertile BAU. However as expected when managing a land asset of some 71,000 hectares across 10 counties there are always going to be areas of lesser nutrient quality. It is our aim to increase the productivity of our estate in line with our strategic policies but only where correct to do so environmentally. Foliar analysis will be carried out in these larger areas often deemed to be “in check” to determine the correct nutrient prescriptions. In the larger areas of pre thicket crops the application is done aerially using helicopters fitted with GPS mapping and a remotely operated hopper. The process is highly regulated and requires a grant of approval from the Forest Service in advance of any works. Extensive buffer zones are created along with digital GPS files provided to the aerial crew to ensure safeguarding of our watercourses. Ongoing proactive restock species reviews occur in this BAU to evaluate these potentially poorer areas after the clear fell event. Appropriate species selection and nurse mixtures are now actively considered in an aim to lessen nutrient deficient crops in the future.
- **Coillte's commitment** to sustainable forest management and environmental protection requires Coillte to review its practices and assess potential risks on a regular basis. Coillte has achieved sustainable forest management certification and is committed to ensure that there is continual professional development and refresher training for all staff, personnel and contractors to ensure a high environmental awareness and work standard is maintained. This will incorporate a wide range of training days and courses on all environmental issues and continued co-operation with all statutory stakeholders.
- The provision of a harvesting **infrastructure** that can respond to the environmental challenges will require ongoing training and cooperation of contractors and engaging in all relevant updates on developments in harvesting technology and machine capabilities. This is seen as a central requirement for all contractors wishing to operate in the Midlands BAU.
- **Diseases** can also have a potential impact on timber supply. In 2010 the plant disease *Phytophthora ramorum* was detected in Japanese larch on the Coillte estate, with subsequent findings also in Noble fir and Beech. *Phytophthora ramorum* is a fungus that can infect a variety of tree and shrub species causing loss of foliage, resin bleeding and ultimately plant death. As there is no known cure for this disease, Coillte will have to fell diseased trees as they are identified, to comply with EU plant health legislation. In an effort to ensure disease symptoms are detected early, thus minimising the spread of the disease, we will continue to monitor our forests and work with the Forest Service, DAFM to comply with their felling requirements in relation to this.

Farm partnerships

In relation to existing farm partnerships Coillte will:

- Work with all our Farm Partners to maximize their Forest potential
- Hold annual management meetings with farm partners to keep them informed.
- Ensure all Farm Partnerships are planned as required in our annual timber programmes.
- Thin farm partnership sites regularly as silviculturally appropriate
- Carry out an inventory on farm partnership sites so records are accurate.

Key Objective 4

In the Midlands BAU, Coillte will continue to manage its 118 Farm Partnerships according to the principles of sustainable forest management

Overall production targets in the Midlands BAU 2021- 2025

Coillte's proposed operating targets for the Midlands BAU for the period of the plan 2021-2025 are summarised in the table below.

Midlands BAU main Coillte production targets 2021 – 2025⁵

Annual Totals					
Year	2021	2022	2023	2024	2025
Establishment					
Planting (ha)					
Regeneration planting (r/f) (Replanting after felling)	1250	1450	1550	1500	1500
Harvesting Programme					
Harvest categories (000m3)					
Thinning's	84	89	88	88	88
Regeneration felling (P,C,W) felling	413	423	430	431	426
Total	497	512	518	519	514
Felling area (ha)	871	887	914	882	903
Roading Programme					
Roading (km)					
New	18	12	11	11	9
Upgrading	44	42	41	39	36
Total	62	53	52	50	44

⁵ Source: Forecast 2016 – 2035 obtained from Coillte Strategic Plan. Actual volumes may vary resulting from an annual update of the Five Year Forest Plan. On an annual basis, over the plan period, Coillte will identify and publish areas where significant differences occur to figures originally published.

3.3 Coillte's Non-timber Businesses in Midlands BAU

3.3.1 Renewable Energy Projects

Coillte has been developing renewable energy projects both on its own, in conjunction with co-development partners and with third party developers who require land rights from Coillte in order to facilitate developments.

Coillte has explored a range of partnerships and/or joint venture models in relation to its future own renewable energy development ambitions. Having considered its strategic options in 2018, Coillte decided to enter a formal development partnership with the ESB. A new standalone joint venture renewable energy company between Coillte and the ESB was established in November 2021 and the entity is called FuturEnergy Ireland (FEI). Coillte's interests in developing its own energy projects or through other historical partnerships have now transferred to FEI.

FEI adopts a best in class approach for the early stage identification of potential renewable energy projects. This includes a holistic overview of a proposed site and its suitability to accommodate a potential wind farm. At a very early stage an environmental impact appraisal is undertaken and public awareness and consultation programmes are implemented where appropriate.

Within this BAU Strategic Plan period, Coillte as a landowner will continue to consider wind farm proposals and where appropriate continue to facilitate FEI and other third party requests. All FEI and third party energy interests for the sale/lease of turbine areas or access requirements follow an approval process.

It is important to note that Coillte is not a Planning Authority for the purposes of undertaking an Environmental Impact Assessment and granting planning permission in accordance with the Irish Planning and Development Acts (as amended). In the interests of proper planning and sustainable development, the suitability of wind farm development proposals on Coillte property is a matter for the relevant Planning Authority.

The following projects are planned for progression on the Coillte estate within this BAU:

Proposed FEI / Co Development projects on the Coillte estate in BAU 3 – correct as at February 2022			
Name of Project	Location	Status	No. of wind turbines/(MW)
Croagh	Leitrim/Sligo	In-planning	10 (10 Coillte Land)
Cullenagh	Laois	Planning Permitted	18 (18 Coillte Land)
Lissinagroagh	Leitrim	Pre-planning	TBD
Total			TBD

Proposed third party planning permitted wind turbines on the Coillte estate in BAU 3 - correct as at February 2022			
Name of Wind Farm	Location	Status	No. of wind turbines
Moanvane	Derrycoffey Forest, Co. Offaly	Planning Permitted	4
Coole	Castlepollard Forest, Co. Westmeath	Planning Permitted	1
Total			5

Also, within this BAU Five Year Forest Plan period, planning permission will be sought by a third party for the following projects:

Proposed projects that will seek / are seeking planning permission for wind turbines on the Coillte estate in BAU 3 – correct as at February 2022			
Name of Wind Farm	Location	Status	No. of wind turbines
Knockroe	Frenchpark Forest, Co. Roscommon	In planning	1
Coole	Castlepollard Forest, Co. Westmeath	In planning	1
Total			2

Over the course of this BAU period, FEI will continue to explore opportunities for small, medium and large scale renewable energy developments on suitable sites for this type of development. Coillte will also continue to facilitate third party developments where appropriate. In all instances, Coillte, through its processes, seeks to avoid significant impacts on nationally designated sites, protected habitats, Coillte's own biodiversity areas, receiving waters and high conservation value forest areas.

Depending on project specific circumstances, turbulence felling or the realisation of relevant habitat management plans may be required as part of that project. In all relevant instances, turbulence felling will be kept to a minimum and only occur where it is required in order to ensure the safe and efficient operation of a wind farm project. In all instances where premature felling is required, Forest Service requirements regarding the provision of replacement lands will be complied with and for turbulence felled areas, a restocking management plan will be implemented that will involve the re-establishment those areas in place of the crop that is felled.

Key Objective 5

In the Midlands BAU, Coillte aims to develop/facilitate the development of 7 renewable energy projects in the period to 2025 and will continue to investigate and pursue other opportunities in this area during that period

Biomass Production

Coillte will consider renewable heat supply opportunities as they arise.

3.3.2 Land sales and Acquisitions

Coillte manages a 440,000 hectare forest estate nationally and regularly buys and sells land as part of normal estate management operations. Coillte has a dedicated Acquisition and Sales Team who are actively looking to acquire bare land and immature forestry to expand our estate, and to sell land that may provide a solution for individuals, businesses or communities. Each year the BAU sells, leases or develops a limited area of land, for purposes other than forestry. Most sales are made in response to local demand and typically comprise house sites, isolated dwelling houses, small areas of forest to neighbouring land owners and local communities, land to local authorities for infrastructure projects and land for development. Properties sold are those where their value greatly exceeds their value for forestry purposes. A signing-off committee within the company considers all land sales, with larger sales requiring the approval of the Board of Directors. Joint development approaches with local communities are favoured.

It is important to note that no development or lease of lands will be entered into until the consultation/planning process is completed. This includes consultation in particular with local people and communities.

In the course of the period of this plan, properties will be identified which are considered suitable for sale or lease and we will endeavour to consult with the people likely to be affected as these arise.

Coillte also recognises the importance of having its property portfolio registered on the Land Register maintained by the Property Registration Authority (PRA). Coillte will continue to work with the PRA and relevant parties in this regard.

3.3.3 Licensed Use of Coillte Lands

Coillte allows permissive access to all of its lands for walking, except those areas closed from time to time for operational purposes. Cycling is allowed on trails and in areas specifically designated for cycling. All other recreational activities are managed under a licencing process to ensure the health and safety of all of our visitors and forest users. These activities can be undertaken by groups or individuals for both recreational purposes and as a commercial activity. Examples of such activities are mountain-bike events, shooting, filming, pony trekking, orienteering and others as requested. Fees may be applied to licenced events and activities.

The position in relation to these activities is that permission is given under written licence from Coillte. The licence is the formal permission allowing the activity to take place on Coillte lands. It contains a number of conditions and requirements for insurance cover and some of these conditions are specific to the activity and the particular location. Responsibility for issuing the licence, management, processing and safekeeping, rests with the manager at each location. A fee based on the activity is charged for each licence. All the information is available at this location [Coillte Recreation Permits](#)

3.3.3.1 Licensed Hunting

Game hunting and deer stalking are amongst the oldest forms of forest recreation and continue to be legally enjoyed by many people across the country. Respecting the traditional nature of this activity and recognising the social, environmental and economic benefits which hunting can have, Coillte may permit certain types of hunting on designated areas of the estate. This is in line with Coillte's [Recreation Policy](#), and Deer Management Policy as well as supporting the principles of multiple use forestry.

Hunting is managed and regulated through the issue of licences which are subject to open public tender. Available areas are advertised bi-annually via the company's website. Tender bids are evaluated by the relevant BAU personnel in accordance with a standard scoring matrix which acknowledges the annual fee offered, the applicant's previous experience, their commitment to safety, as well as environmental and local interest considerations. Coillte is moving toward a position whereby only persons who have completed an approved competence assessment will be permitted to hunt on its lands. Currently this is a mandatory requirement for all those intending to hunt wild deer.

Coillte have produced a Code of Practice which establishes minimum standards expected of all persons engaged in these activities alongside compliance with licence conditions and national legislation. All of the necessary information on hunting is located here [Coillte Hunting Licences](#)

3.4 Community, Recreation and Tourism Proposals

Coillte's proposed recreation priorities for the Midlands BAU between 2021 and 2025 include:

- engaging with local community groups and where possible agreeing partnership arrangements for the maintenance and enhancement of existing recreation facilities and possible development of new ones.
- managing and maintaining all of our existing recreation sites including waymarked ways to the highest standards.
- managing unauthorised usage of the recreation infrastructure in line with best management practice and security policy.
- sourcing funding and developing new infrastructure including 'access for all' on a based on needs identified in conjunction with stakeholders and funding agencies, and to enhance local tourism potential. The key projects in this BAU over the period of this plan are:
- Continuing our exploration of the development of amenities with County Councils including:
 - a. Cycle route at Killykeen Forest Park, Co Cavan
 - b. Slieve Bloom Mountain Bike Trail, Co Laois and Co Offaly
 - c. Enhancement of Glenfarne recreation area in Co Leitrim with Leitrim County Council.

Key Objective 6

In the Midlands BAU, Coillte aims to:

- Provide a high quality recreation offering to public.
- Maintain all existing recreation sites to the highest standards
- Work in partnership with communities to upgrade amenity sites

3.5 Cultural Heritage and Archaeology Measures in the Midlands BAU

Coillte, as the largest landowner in the country has a duty of care of the cultural heritage across the estate. All archaeological monuments are protected by law under the National Monuments Acts (1930-1994) and should not be disturbed without prior official approval. Coillte is guided by the Forest Service - DAFM and the National Monuments Service- DHLGH in the best forest practices in the protection of these structures.

All recorded archaeological monuments are highlighted during the planning stage of operations. They are identified and cordoned off on site by the forest manager to ensure their protection. Accessibility from the nearest public road, forest road or forest track is provided for such sites at afforestation stage and is established or maintained at reforestation stage. Outside of the these stages of the forest cycle, where professional archaeologists require access to a monument, this can be facilitated locally by Coillte staff. Unrecorded archaeological monuments, when located, are immediately protected and reported to the local Coillte Environmental Manager who in turn contacts the Forest Service Archaeologist for further advice.

The BAU will continue to support sites of acknowledged cultural and literary heritage and will protect and record all newly identified features of heritage that are discovered on the estate.

3.6 Environmental Enhancement Measures

The following environmental enhancement measures are proposed for the period 2021-2025.

3.6.1 Diversification of Tree Species

Coillte policy is to encourage species diversification in order to maintain and enhance the productive potential of its estate and to increase biodiversity in its forests. To reduce or eliminate the need for artificial fertilisation programmes, a more cautious species selection is being applied within the BAU, so that the species planted will not need supplementary fertiliser over their rotation. This effectively means within this BAU are pursuing a policy of planting lodgepole pine or pine/spruce mixtures on the low yielding sensitive sites. Diverse conifer species such as Scots pine can also be used in areas of shallow peat especially where there is a high late spring frost Risk. Riparian zones are either left as open space or planted with suitable native broadleaf species. Old woodland sites within our area will also be assessed prior to clear felling, with suitable restock species agreed based on an field audit procedure.

3.6.2 Practicing Low Impact Silvicultural Systems (LISS)

The selection of a silvicultural system on a forest site will be based on several different factors. The decisions will be based on site stability, Crop age , the management objective of the site (i.e. timber production, biodiversity , recreation), and the surrounding landscape.

Listed below are areas within our Midlands BAU where the various silvicultural systems ,collectively known as low impact silvicultural systems (LISS) may be adopted. One such system is Continuous Cover Forestry, regarded as alternative methods of silvicultural management to clear felling. Not all areas are suitable for immediate change and the introduction of LISS systems can only be achieved gradually and can take up to a rotation length to complete. Continuous Cover Forestry is carried out in many sites and continuously assessed. A few examples are Oakwood, Carrick Wood, Emo Park, Mullaghmeen, Killykeen, Rossmore, Dun A Ri, Knockbarron, Black Island, Carrick Wood and Ravensdale.



Oakwood Co. Cavan and Dysart Co. Laois



Sites on Coillte Estate managed under LISS

1. Old Woodland Sites (OWS)
2. All Broadleaf High Forest (BHF) stands are to be managed under CCF
3. Amenity sites
4. Agreed Biodiversity Areas where current or target habitat is woodland where appropriate according to Biodiversity Management Plan
5. Management Units currently listed for management under LISS, where silvicultural system equals Small Coup Felling (SCF), Continuous Cover Forestry (CCF), Long Term Retention (LTR), Natural Regeneration (NRE)
6. CCF demonstration sites
7. Scots pine stands, where stability and vegetation provides for Natural regeneration

Key Objective 7

In the Midlands BAU, Coillte aims to maintain and enhance the current level of broadleaves in the BAU.

3.6.3 Biodiversity

At present 14,441 hectares or 20% of the Coillte land area in the Midlands BAU is designated and managed for biodiversity.

Principal methods of retaining biodiversity in the BAU will include:

- **Retention of Old Woodland Sites (OWS)** Retention of Old Woodland Sites (OWS) which have supported woodland cover since at least 1830 and which have particular importance as reservoirs of native biodiversity. The BAU has 5,514 ha identified as old woodland. This represents 8% of the Coillte land in the Midlands BAU or 21% of the old woodland identified on Coillte's estate nationally. The management of these areas will be in line with Coillte's old woodland sites policy which includes assessing the value of any OWS before felling and high impact operations, and reviewing all sites that received a good rating from ecologists. The results of these assessments determine future management and restocking species.
- **Continuing the introduction of riparian buffer zones** Given the overwhelming occurrence of streams and waterways in the forests in this BAU, much of our forest design centres around buffer and riparian zone management. As current coniferous crops are clear felled, opportunities arise to create riparian areas both within and around the forest properties. These new areas will be managed as a mixture of open space and native broadleaf species such as Rowan, Birch, and Willow.



Riparian Zone , Baunreagh Co. Laois . Trees removed at harvest operation allowing Riparian zone green up

- **Long term retention** of some stands of timber is practiced to enhance environmental, landscape and social benefits of our holdings. The target for the period is to set aside 1% of the gross area of the BAU for long term retention. Glendine property known locally as the Ministers Hut has been designated for long term retention as has a block of Douglas Fir within Emo Park and some areas within the Cavan Burren. Scots pine is the only conifer tree regarded as a native species and it is our policy to retain them long term where it's possible and safe to do so.
- **Retaining dead wood** in all forests managed by Coillte is policy, where consistent with health and safety requirements. Ecologically, dead trees are as important as live ones in natural forest ecosystems. They are important structural elements in a forest and support a wide range of invertebrate and vertebrate animals, and epiphytic and saprophytic plants and fungi. Dead and decaying wood can provide habitats for more than one-fifth of the woodland fauna. In the UK, 34% of scarce invertebrates depend upon dead wood. Dead and decaying wood also influences the flow rate and organic debris in forest streams and rivers. The intention is that the concentration of deadwood will be the highest in semi-natural woodlands (biodiversity areas and broadleaved stands) where large trees will be allowed to grow old and die off on site. On all sites being surveyed by inventory staff, deadwood stems are being recorded. Coillte also record deadwood both fallen and standing after harvesting events and when completing 4 year old crop assessments. Below are figures for the period 2019-2021. Figure for 2016-2018 can be made available upon request.

Standing Deadwood

High Forest Area (ha)	No Plots Measured	Area of plots measured Sample (ha)	Representative population measured (ha)	% of population measured	Av deadwood vol measured across the population (m3/ha)	Tot Vol in the Population (m3)	Av BAU Vol per ha (m3/ha)
59,471	1,413	56.52	19,275	0.29%	26.29	506,740	8.52

Fallen Deadwood

Av Annual Vol (m3)	High Forest Area (ha)	Av Annual Vol across BAU (m3/ha)*	Av Vol across BAU (m3/ha)	Target Vol (m3/ha)
53,460	59,471	0.90	7.19	4

*(Average Annual Volume figures are based on an average of 3 years)



Deadwood: Large dimension deadwood retention at Thomastown Co. Offaly

Key Objective 8

In the Midlands BAU, Coillte aims to review, manage and maintain the areas of biodiversity.

4. Sustainable Forest Management Policies and Proposals

Coillte manages its forests to FSC® and PEFC Forest Certification Standards and OHSAS 18001 Occupational Health and Safety Standard. Coillte are also committed to energy efficiency and in 2021 successfully achieved ISO 50001 certification status for its energy management systems.

4.1 Using Forest Design

The BAU recognises its responsibilities to ensure that its forests are planned and managed in a manner that enhances the landscape. All of the forests and associated properties have been given a landscape sensitivity designation of high, medium or low. Each forest therefore requires attention to a greater or lesser extent based on these ratings.

A number of factors are addressed when drawing up a landscape plan. Felling coupe size is one of the most important of these. As a general rule felling coupes adhere to Forest Service regulatory guidelines, at the time of publishing this is a maximum of 25ha. There may be situations where felling coupes of greater than 25ha will be necessary, and these will be treated on an individual basis, with the appropriate assessment and consultation process carried out prior to any felling taking place. Other factors and constraints which need to be considered are; age and structural diversity, limited species selection, soil type, windthrow risk, elevation, deer abundance and buffer zone management. These factors are by no means exhaustive. For example, in recent times the disease *Phytophthora ramorum* has spread in certain locations in Ireland. The disease can kill Larch species, which was always considered a valuable species in terms of providing colour in a landscape.

Given the overwhelming occurrence of streams and waterways in the forests in the BAU, much of our forest design plan centres around buffer and riparian zone management. As current coniferous crops are clear felled, opportunities arise to create riparian areas both within and around the forest properties. These new areas will be managed as a mixture of open space and native broadleaf species such as Rowan, Birch, and Willow.

4.2 Water Protection

Coillte's Policy on water protection and water monitoring is outlined in "Environmental Risk Assessment (ERA) Procedure for Site Operations". This document details our approach to minimising the impacts of forest operations on water quality. We also ensure compliance with the Forest Service's Code of Best Forest Practice, which includes a series of standards and guidelines.

Through the implementation of Environmental Risk Assessment (ERA) and Appropriate Assessment (as per the EU Habitats Directive), the most sensitive sites are identified and appropriate management measures above and beyond what is routinely adopted are recorded and implemented during the course of the forest operations.

Forestry operations go through an ERA which is supplemented by AA processes and identifies any potential impacts on Qualifying Interests (QIs) of European sites within the Zone of Influence of the project site, for example, due to a decline in water quality, and identifies appropriate measures that should be applied. Any mitigations required to protect QIs are clearly stated in Natura Impact Statements produced as part of the AA process and are listed on the Appropriate Assessment Determination (AAD) produced by DAFM for licenced activities. AA reports are produced by ecologists who consult with the Environment Team in relation to the highly sensitive sites that are identified by the ERA process.

Amongst the suite of measures that can be applied to protect water quality, one of the most important is the establishment of setbacks along aquatic zones within the forest. If not already in place from the time the forest was initially planted, a naturally vegetated setback should be established either at thinning or clearfell and restock stage. As stated above, many of the measures that are applied are standard measures (DAFM 2019) designed to protect water quality. Additional measures are applied as required depending on the nature of the forestry operations, site characteristics and sensitivity of the receptors.

For activities that might impact on highly sensitive species such as freshwater pearl mussel (FPM), measures applied may include increased setbacks along aquatic zones which are hydrologically linked to FPM populations and planting of small groups of native broadleaves. The width of the setback depends on proximity to the FPM population and can be from 10-40m or more. Timing restrictions for works and/or weather conditions under which works should

take place may also apply, again depending on the proximity to the FPM. Measures to be applied and licence conditions appear in the site packs issued to all contractors so that they are aware of additional measures that must be taken to protect water quality.

Other measures to protect water quality include the restriction of when operations can occur in the year, the provision of silt traps, the minimisation of machinery movement in the setbacks and exclusion zones, extraction route layout and use of brash and the design and location of temporary bridging over watercourses within the operations site. The measures to be applied are set out in the Appropriate Assessment reports produced for the operations concerned. They are based on the characteristics of the site, nature of the proposed operations, environmental and ecological sensitivities of the surrounding area.

To address the risk of oil spillages from forest machinery, a pollution control plan is included in the Site Activity Pack and a pollution control kit is on site for all high impact operations. Forest operations are actively managed and monitored. On the most sensitive of sites, daily visual monitoring is conducted of all watercourses exiting the operation's site and records kept. On a selection of these sites, short-term water sampling of 'high impact' forest operations described in Section 2.8 is carried out. In addition, long term fixed sampling sites on selected river(s) has been established in the BAU. The purpose of this sampling is to determine the cumulative impact of forests and associated forest practices have on water quality.

In highly sensitive catchments, other land use management options may be considered to protect water quality e.g. rewilding and/or bog restoration. Bog restoration is appropriate where there is potential for restoration i.e. sites on deep peat where it is possible to raise the water table and re-wet the bog through low impact interventions such as drain blocking and removing trees. Bog restoration has potential benefits for water quality, biodiversity and carbon sequestration but requires DAFM approval where deforestation is involved.

Rewilding may be more appropriate in other areas which would require high impact interventions to achieve bog restoration e.g. cutover bog or plantation forest on cutover bog. Rewilding of existing plantation forests involves actions such as respacing to open up the canopy and promote development of the ground flora, and species diversification of the canopy, creating wide, vegetated setbacks (buffer zones) along rivers and streams, and planting native trees and shrubs where appropriate. Rewilding has potential benefits for enhancing natural and semi-natural habitats, as well as protecting water quality.

4.3 Reducing Use of Chemicals

Pesticides

Coillte uses an integrated pest management approach; a core principle of Coillte's Environmental Management System and both the FSC® and PEFC certification schemes. As such, Coillte is committed to reducing its pesticide usage and, where possible, to using non-pesticide methods to control pests and weeds. Pesticides are applied only when absolutely necessary due to environmental considerations and cost. The decision to apply a pesticide is based on a site assessment, and only taken where non pesticide control options are unlikely to give sufficient protection. When pesticides are required, only those approved as safe for use in forestry by the Pesticide Registration & Control Division (PRCD) of the Department of Agriculture, Food and Marine (the regulatory body for pesticide use in this country) and FSC® listing of Hazardous Chemicals are used. All of Coillte's operators are fully trained in health and safety and environmental aspects of the use of chemicals. Notices are erected to inform the public where the chemicals have been sprayed. The chemicals are always applied manually directly to the base of trees and away from watercourses and other sensitive natural features. Where pesticides are required, their storage, usage and disposal all comply with national pesticide legislation, EMS, FSC® and PEFC guidelines and Health and Safety guidelines.

During the previous plan period 2016-2020, the insecticide used to control the weevil was cypermethrin (10% w/w), otherwise known as Forester, which was used under derogation from FSC® (details available upon request). In 2019, use of cypermethrin ceased and was replaced with a chemical called acetamiprid (20% w/w), commercially known as Gazelle SG or Ceta which is approved by the PRCD for use in plant pre-treatment and top-up spraying applications in Ireland.

The figures below refer to cypermethrin use nationally during 2016-2020 as referenced in Appendix IV.

				Planting Hectares Previous 4 Years				KGs A.I Planted hectares	% Reduction v 2016 Baseline
Reporting Year		Cypermethrin (Ltrs)	Cypermethrin KGs A.I.	2013-2016	2014-2017	2015-2018	2016-2019		
Derogation Baseline Year	2016	6,264	626.4	26,292				0.023824738	
Year 1	2017	5,765	576.5		28,305			0.020367426	15%
Year 2	2018	4,798	479.8			27,297		0.017577023	26%
Year 3	2019	-	-				32,906	0	100%
Year 4	2020	-	-				0	0	0%
Expired Year 5	2021	-	-					0	0%

An ESRA Environmental and Social Risk Assessment (ESRA) is intended to inform the site operational plans, site specific risks, and adoption of appropriate mitigation measures. For each chemical used an ESRA is completed. In 2021, as part of our Chemical Use Policy all necessary ESRA's were produced, copies of which can be made available if requested to info@coillte.ie.

Fertilisers

Application of fertilisers to areas to be restocked is only carried out where site fertility is low. Where tree crops develop nutrient problems in later years, foliar analysis is undertaken to determine the quantities of fertiliser to be applied. Where required, aerial fertilisation is carried out on thicket stage crops. Approval from the Forest Service is required for aerial fertilisation in the form of a licence before the operation may proceed. These licences go through the Appropriate Assessment (AA) process which identifies any potential impacts on Qualifying Interests (QIs) and identifies appropriate measures that should be applied. This requires the submission of detailed plans and consultation and agreement from the County Council, Inland Fisheries Ireland and NPWS. Adherence to the Forest Service requirements on aerial fertilisation is mandatory. A forest crop is described as 'in check' when tree growth is negligible or has ceased altogether. This usually occurs before canopy closure on nutrient poor sites, when the forest is still incapable of recycling the limited amount of available nutrients within the crop.

4.4 Sharing our plans and consultation

Coillte's policy is to consult widely with stakeholders in formulating its management plans, policies and objectives. Examples of how Coillte consults with its stakeholders are outlined below:

- Consultation on our BAU felling plans takes place on a formal basis with the Forest Service, and by extension with Fisheries Boards, National Parks and Wildlife Service and County Councils;
- Coillte consults at national level in relation to its forests, at BAU level on its Forest Five Year plans and at forest operational level in advance of all high impact operations. The Forest Five Year plans are currently reviewed on a five year cycle;
- Each BAU hosts consultation meetings with stakeholders annually as part of Coillte's continuing consultation and engagement. This allows Coillte to discuss issues of common interest with stakeholders.
- A comprehensive stakeholder list is held in each of the BAUs. This includes names of local community groups, statutory organisations, non-governmental organisations, farm partners, contractors, customers, and many other stakeholders. Coillte carries out an annual update of our stakeholder list to ensure our records are as accurate as possible;
- Coillte welcome any member of the community and stakeholders in general to view our website www.coillte.ie to find out more about what we do. Coillte also encourage stakeholders to make contact with us so that we can answer queries, consider views and respond to any issues raised. Those who wish to be added to our stakeholder register can do so by completing and submitting the contact form on our website.

Coillte's stakeholder engagement process on our Five Year Forest Plans

It is Coillte's policy to engage widely with stakeholders in formulating its management plans. The Five Year Forest Plans set out a vision for the forests in each business area unit, and also, how Coillte policies and objectives will be implemented at Business Area Unit level during the period of the plan.

The purpose of Coillte's forest plans is to set out plans for forest management activities that take place in each of our BAU's. In compiling these plans Coillte applies the principles sustainable forest management including potential interactions between forest activities and receptors such as water and soils, biodiversity, archaeology & cultural heritage, landscape, people and material assets.

Some of the topics covered in our forest plans include the following: resource planning, timber harvesting and replanting, timber sales, community facilities and benefits, environmental enhancement measures etc. During the consultation process on these forest plans, Coillte actively engages with stakeholders, in the following ways:

- national newspaper adverts
- regional newspaper adverts
- Public notices displayed at recreation sites
- consultation via Coillte's website
- emails or letters to our listed stakeholders
- BAU annual consultation meetings
- forest office meetings (by appointment) which allow further feedback

The stakeholder engagement process is carried out in two stages (scoping and draft plan stage) to take input from the public in relation to its forest plans. A map is produced as part of the consultation process, which reflects the areas targeted for clear-felling. This map forms the basis of public consultation and if concerns are raised about particular areas they are addressed at this time. Coillte endeavour to take on board inputs during this engagement process, while also balancing diverse opinions and contributions from the public in relation to these plans.

Stakeholders should note that Coillte on occasion have to make adjustments or amendments to our felling plans for reasons such as silvicultural, landscape design, restructuring, market conditions, forest disease and windblow. Any changes are consulted on in line with Coillte's consultation procedures.

Incorporation of results of stakeholder engagement in this BAU

Following Coillte public consultation processes, submissions received are acknowledged and assigned to the relevant BAU or business area for consideration, response and possible incorporation into our plans.

A summary of incorporated changes and responses issued by Coillte to stakeholder submissions during Phases 1 and 2 of public consultation received for this Five Year Forest Plan are detailed below.

Incorporation of changes to all Five Year Forest Plans, responses following consideration of consultation submissions	
Section reference in plan	Detail incorporated
Foreword	In order to align our Forest Plans with current company strategy and create awareness this section was updated to include the following "In practicing sustainable forest management Coillte's aim is to develop its forests in a way that is environmentally, socially and economically sustainable, and to deliver the multiple benefits from our forests for climate, nature, wood and people"
1.1 Coillte	In response to biodiversity being raised as an issue in many stakeholder submissions during both phases of public consultation a paragraph was added headed 'Nature Conservation and Biodiversity' which gives a summary of our ongoing work in these areas.
1.2 Renewable energy	This section was updated to inform stakeholders about Coillte's joint venture company with ESB, namely FuturEnergy Ireland (FEI).
1.4.1 Trees, Carbon and Climate Change	As climate change and carbon storage were topics raised by many individuals, groups, NGO's (Mountaineering Ireland, Irish Water, Inland Fisheries Ireland) section 1.4.1 has been added to our plans providing useful information on how well managed forests have a triple benefit in combating climate change. Please refer to this section for details.

1.4.2	Details of our not-for-profit branch of Coillte, Coillte Nature has been added along with a link to further information on our website. Provision of this information goes towards providing details of our biodiversity and restoration work as requested and acknowledged by stakeholders during both phases of public consultation
1.5 Meeting external challenges, constraints and opportunities	This section was expanded to include sub-sections with information specific to regulatory requirements, pests and diseases, societal expectations, dumping and forest fires. Submissions received raised dumping as a major concerns, especially in recreation areas. Also, there is an expectation in many areas for enhanced and well maintained recreation areas and Coillte have committed to engaging and working with forums in various counties. Also, as dumping is an ongoing issue that requires a lot of resources statistics have been included to demonstrate the negative financial impact on our business.
2.5 Biodiversity and high conservation value forests (HCVF) within the Northwest BAU – Update 1	Text in this section was reviewed and updated to reflect our work in relation to BioClass which is a science-based procedure for assessing the ecological value of biodiversity areas within the Coillte estate.
2.5 Biodiversity and high conservation value forests (HCVF) within the Northwest BAU – Update 2	Submissions by Stakeholders Old Woodland Sites (OWS) – During Phase 1 of public consultation 330+ submissions were received in relation to OWS. Relevant information was provided in our response to each stakeholder and updated text has been added to Section 2.5 which sets out our policy in relation to OWS.
2.9 Water quality and protection in the Midlands BAU	This section was revised to include updated information about measures taken to handle forest operations in proximity to waterways. Also, as required, and referred to in submissions received by individual stakeholders, Irish Water and the Marine Institute this section now includes reference to our catchments and sub-catchments list with access via a link to all relevant maps
2.10 Forest Management Issues	In response to concerns raised by stakeholders in submissions and through the contact page on our website during the period of consultation, information about measures being taken to control the illegal use of motorised vehicles on our lands has been included.
3.2 The Forest Resource and Wood Production – Update 1	In response to several queries relating to our felling plans, and to ensure that all those who refer to our plans are fully informed, the following text has been added to the last paragraph of this section <i>‘Coillte’s felling plans are also made available to the public via Coillte’s online mapviewer hosted on the Coillte website here and updates to these plans are notified to registered stakeholders on an annual basis. If you wish to register as a stakeholder which ensures you are notified please refer to the contact page on our website for further information.’</i>
3.2 The Forest Resource and Wood Production – Update 2	To provide clarification, as requested by an individual stakeholder, Key Objective 4 was re-worded in all plans to read as follows <i>“In _____ BAU, Coillte will continue to manage its _____ No Farm Partnerships according to the principles of sustainable forest management”</i>
3.3.1 Renewable Energy Projects	In order to ensure provision of up-to-date information to stakeholders as agreed during consultation on previous strategic plans text regarding the number of planning

	permitted projects and proposed projects that concern the Coillte estate was updated and is accurate as of February 2022.
3.6.3 Biodiversity	Retaining deadwood – Actual figures for the past three years (average) for fallen and standing deadwood are provided
4.2 Water Protection	This section has been reviewed and updated to reflect Coillte's Policy and procedures in relation to Water Protection.
4.3 Reducing use of Chemicals	This section has been updated to inform stakeholders that use of Cypermethrin as referred to in previous plans has ceased. A breakdown of its use during the previous plan period has been provided as referenced in Appendix IV – Monitoring. Also, information about ESRA Environmental and Social Risk Assessment (ESRA) has been added and text under the heading 'Fertilisers' has been reviewed and updated.
Incorporation of changes, responses following consideration of consultation submissions specific to BAU 3 – Midlands The detail in the table below outlines incorporation of changes, following consideration of consultation submissions received from stakeholders/public during Coillte's public consultation stages (scoping and draft plan) carried out during 2020 and 2021 for the Midlands BAU Five Year Forest Plan.	
2.3 Community, Recreation and Tourism Facilities in the Midlands	Submission by Stakeholders Mote Park Conservation Group, who Coillte have engaged with for many years, requested a copy of Coillte's management plan for the area as the previous plan had expired. Response by Coillte Meetings with the group were held and a management plan was completed and presented in November 2021. We endeavour to continuously improve areas we have designated for recreation and work closely with local community groups to maintain and enhance these areas while also ensuring they are managed sustainably.
3.2 The Forest Resource and Wood Production	Submission by Stakeholders An individual Stakeholder requested information about planned tree felling at Doughil, Co Roscommon. Response by Coillte The Resource Manager provided details of felling plans for the area and also information about restocking of broadleaves and ERA assessment that ensure all measures are in place to ensure the protection of species. Annual consultation on our felling plans and provision of a publicly accessible webviewer which facilitates engagement at all times ensures all interested stakeholders / public are fully informed.
2.3 Community, Recreation and Tourism Facilities in the Midlands	Submission by Stakeholders Meath County Council acknowledged Coillte's work in relation to the development, enhancement and maintenance of the County's recreation facilities in partnership with local stakeholders, including Local Authorities and Community Groups. They asked that this work continues and welcome the opportunity to explore further recreational use of the County's forests.

	Response by Coillte We were pleased to have received a submission from Meath County Council and have reviewed the matters raised. We currently actively participate in a working group set up in 2020 whose focus is recreation development along with a possible joint approach to climate change projects in the county. Coillte will continue to work closely with Meath County Council via this forum to support the continued provision of recreation facilities in the County.
2.3 Community, Recreation and Tourism Facilities in the Midlands	Submission by Stakeholders Heywood Art and Cultural Committee submitted proposals to designate and develop this area for recreation Response by Coillte Coillte set out the management plan for the area and recommended that in order to proceed with discussions relating to future plans for Heywood Forest, Twin Trees Heywood Art and Culture committee should organise a forum which the BAU's Estates Manager would participate in. We endeavour to continuously improve areas we have designated for recreation and work closely with local community groups to maintain and enhance these areas while also ensuring they are managed sustainably.
2.3 Community, Recreation and Tourism Facilities in the Midlands	Submission by Stakeholders Leitrim Co Council's submission raised several matters, including Water Protection, consultation, and compliance. Response by Coillte Coillte highlighted the ongoing work being carried out by a joint working group between Coillte and Leitrim Co Co which provides opportunity to raise all matters referred to in their submission. Coillte will continue to work closely with Leitrim County Council via this forum. Furthermore, Coillte have a positive relationship with Leitrim Co Co and will continue to proactively engage with them in relation to our operational plans as set out above.

4.5 Monitoring and Evaluation

Coillte continues to monitor the achievement of its objectives and targets using the proforma set out in [Appendix IV](#). Please refer to this Appendix for results of monitoring for the period 2016-2020.

Appendix I - Summary of Archaeological Sites in Midlands BAU

* The SMRS numbers listed in the above table can be used to view and search for these monuments using The National Monuments Service Map viewer available at www.archaeology.ie. When the number of monument types exceeds 10 only the first 10 SMRS numbers are listed.

BAU	Type of Monument	No. In BAU	SMRS Number *
B3	Barrow - bowl-barrow	2	LA007-004----, LH011-001001-
B3	Barrow - stepped barrow	1	WM011-150----
B3	Barrow - unclassified	4	LA006-007----, LA006-008----, RO015-016----, WM038-013----
B3	Bawn	5	CV017-038----, CV017-039----, CV028-009002-, LE025-061002-, OF030-005003-
B3	Boundary mound	2	LE016-005001-, LE016-005002-
B3	Building	1	LE025-060004-
B3	Bullaun stone	3	LA007-012----, LE025-060003-, LF019-068002-
B3	Burial	1	RO002-038----
B3	Burial ground	1	LE009-006002-
B3	Burnt mound	1	CV004-065----
B3	Cairn - boundary cairn	7	LA010-001002-, LE016-002001-, LE016-002002-, LE016-002003-, LE016-002004-, LE016-002005-, OF039-060003-
B3	Cairn - unclassified	9	CV004-003002-, CV007-003----, LE016-004----, LE035-029----, LF005-018----, MO015-007----, OF039-060004-, RO017-089002-, RO029-153----
B3	Castle - motte	1	OF036-044003-
B3	Castle - motte and bailey	1	ME006-027----
B3	Castle - tower house	1	OF030-005001-
B3	Castle - unclassified	7	CV028-009001-, CV035-011----, LE025-061001-, LF015-033----, OF036-044001-, OF036-045----, RO010-033----
B3	Church	4	LE016-020----, LE025-060001-, RO006-059001-, RO029-152----
B3	Cist	1	LH011-001002-
B3	Crannog	5	CV019-034----, RO003-010----, RO006-051----, RO006-052----, RO039-049----
B3	Designed landscape - folly	1	LA005-010002-
B3	Designed landscape - tree-ring	2	CV039-038----, OF016-037----
B3	Designed landscape feature	2	LA009-007----, LA009-016----
B3	Earthwork	7	LE013-004----, RO017-134----, RO036-006----, WM007-067----, WM012-128----, WM026-101----, WM038-026----
B3	Ecclesiastical enclosure	2	LA029-046002-, WM020-038002-
B3	Ecclesiastical site	1	LA029-046001-

B3	Enclosure	52	CV001-010----, CV001-011----, CV002-013----, CV002-028001-, CV002-028002-, CV004-002----, CV004-037----, CV009-006----, CV011-005----, CV017-060----, CV019-036001-, LA002-016----, LA006-002----, LA006-004----, LA006-010----, LA007-003----, LA013-057----, LA014-044----, LA015-009----, LA015-011----, LA015-012----, LE008-010----, LE009-006001-, LE015-108002-, LE015-134----, LE015-150-- --, LE015-153----, LF015-028----, LH005-026----, LH008-005----, LH008-029----, LH022-045----, MO009-064----, MO014-002----, MO017-045----, MO023-004----, OF003-004----, OF012-009----, OF035-004----, OF036-047----, OF039-015----, OF039-015001-, OF039-015002-, OF039-015003-, OF039-015004-, OF039-015005-, OF039-018----, OF039-028----, RO006-041002-, RO011-054----, RO029-032----, WM017-116----
B3	Field system	4	CV004-050----, LA011-001----, LA013-064----, LH008-055002-
B3	Fulacht fia	4	LH008-001----, LH008-092----, RO014-077001-, RO014-077002-
B3	Graveslab	1	OF036-044005-
B3	Graveyard	2	LE025-060002-, RO006-059002-
B3	Hermitage	1	LA007-008----
B3	Hillfort	1	LA007-002----
B3	Hilltop enclosure	1	RO017-089001-
B3	House - indeterminate date	4	CV001-028----, LE017-004002-, RO002-019001-, RO003-035----
B3	House - medieval	2	CV001-027----, LA009-015----
B3	Hut site	9	CV001-025----, CV001-026----, CV002-042----, CV004-024----, CV004-025----, CV004-026----, CV004-066----, LH005-021002-, LH005-023002-
B3	Icehouse	3	CV028-010----, CV035-008----, WM011-004----
B3	Inscribed stone	1	LE012-031----
B3	Kiln	1	LE025-061003-
B3	Kiln - corn-drying	1	CV007-012----
B3	Linear earthwork	1	LE005-014----
B3	Mass-house	1	LA014-056----
B3	Mass-rock	2	LE019-015----, RO024-012----
B3	Megalithic tomb - court tomb	5	CV019-035----, LE015-062----, LE015-108001-, MO013-007----, RO004-062----
B3	Megalithic tomb - portal tomb	2	CV004-001----, CV004-004----
B3	Megalithic tomb - unclassified	4	CV004-027----, LA006-001----, MO009-051----, MO009-063----
B3	Megalithic tomb - wedge tomb	4	CV004-003001-, CV004-005----, CV007-001----, RO004-063----
B3	Millstone quarry	1	CV009-026001-
B3	Mound	3	LA023-018----, OF030-005002-, OF037-011----
B3	Promontory fort - inland	3	CV004-036----, RO002-002----, RO003-008----

B3	Quarry	2	LA029-027----, RO004-013001-
B3	Redundant record	16	CV007-018----, LA003-013----, LA009-011----, LA029-046----, LE009-005----, LE009-006----, LE011-104----, LE012-034----, LE015-117----, LE016-009----, LE016-019----, OF038-032002-, RO006-059004-, RO010-121----, RO012-001001-, WM001-054----
B3	Religious house - unclassified	1	RO006-059003-
B3	Ringfort - cashel	10	CV001-020----, CV002-029----, CV002-038----, CV006-004----, LE011-106001-, LE012-033001-, LE013-001----, LF019-119----, RO006-009----, RO006-040----
B3	Ringfort - rath	101	CV005-014----, CV005-016----, CV007-008----, CV009-005----, CV017-034----, CV017-047----, CV017-066----, CV019-022----, CV025-085----, CV028-015----, LA006-006----, LA015-007----, LA015-013----, LE011-065----, LE012-018----, LE014-025----, LE014-029----, LE015-050----, LE015-126----, LE015-130----, LE015-152----, LE017-001----, LE017-004001-, LE018-011----, LE025-054----, LE025-066----, LE031-122----, LF006-036----, LF006-047----, LF006-051----, LF011-021----, LF011-022----, LF015-029----, LF015-040----, LF019-063----, LF019-064----, LF019-072----, LF019-100----, LF027-020----, LH004-096----, LH005-017----, LH005-021001-, LH005-023001-, LH005-025----, LH008-002----, LH008-023----, LH008-055001-, ME002-001----, ME002-002----, ME002-005----, ME003-014----, ME015-043----, ME022-016----, ME032-025----, MO009-050----, MO010-013----, MO013-006----, MO017-075----, MO022-020----, MO023-005----, OF030-007----, OF037-007----, OF038-032001-, OF039-017----, OF042-029----, OF043-062----, RO002-019----, RO003-031----, RO003-064----, RO004-012----, RO006-015----, RO006-041001-, RO006-042----, RO006-043001-, RO006-044----, RO006-045----, RO006-055----, RO006-061----, RO006-090----, RO010-061----, RO011-053----, RO012-001----, RO012-024----, RO020-023----, RO021-017----, RO021-018----, RO024-002----, RO029-112----, RO036-007----, RO040-076----, RO042-005----, RO042-006----, WM001-026----, WM003-032----, WM007-060----, WM011-003----, WM011-067----, WM011-070----, WM011-109----, WM012-068----, WM017-028----
B3	Ringfort - unclassified	5	LE008-007----, LE015-146----, LE017-010----, RO022-100----, RO034-029----
B3	Ritual site - holy well	1	CV039-037----
B3	Road - class 2 togther	2	LF018-084007-, LF018-084039-
B3	Road - class 3 togther	2	LF018-084010-, LF018-084011-
B3	Road - road/trackway	1	OF037-022----
B3	Road - unclassified togther	2	LA009-008----, OF003-002----

B3	Rock art	15	CV004-005001-, CV004-051----, CV004-052----, CV004-053----, CV004-054----, CV004-055----, CV004-056----, CV004-057----, CV004-058----, CV004-059----, CV004-060----, CV004-061----, CV004-062----, CV004-063----, CV004-064----
B3	Souterrain	6	CV019-036002-, LE012-022----, LE012-033002-, LH022-021----, ME032-021----, RO006-043002-
B3	Standing stone	7	LE016-003----, LH004-002002-, LH004-002003-, LH004-002004-, LH004-002005-, RO032-051----, WM011-075----
B3	Stone circle	1	LH004-002001-
B3	Stone row	1	CV021-073----
B3	Sweathouse	23	CV003-009----, CV003-021----, CV005-013----, LE008-031----, LE009-010----, LE012-053----, LE012-055----, LE012-056----, LE015-165----, LE016-023----, LE016-025----, LE016-028----, LE016-034----, LE018-066----, LE018-077----, LE021-010----, LE021-011----, LE021-013----, LE021-014----, LE021-015----, RO002-003----, RO002-021----, RO004-013002-
B3	Water mill - unclassified	1	WM006-073----
B3	Well	4	CV035-007----, CV039-088----, LA006-009----, RO021-016----
B3	Windmill	1	WM002-033----

Appendix II – Habitats and Species in Midlands BAU

Peatland and wetland habitats

Main Properties	Habitat Quality	Management Strategy 2021-2025	Issues to be Addressed
Raised Bog (PB1) --- former LIFE sites and other raised bog – HCV			
Property: Cloonshanville County: Roscommon European Site: Cloonshanville Bog SAC	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor recently cleared areas of natural regeneration of exotic trees and fire prevention
Property: Drumalough County: Roscommon European Site: Drumalough Bog SAC	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Fartagh, County: Cavan European Site: Killyconny Bog (Cloghbally) SAC	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Coolamber County: Longford European Site: Ardgullion Bog SAC	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Carn Park County: Westmeath European Site: Carn Park Bog SAC	Includes areas of good quality active raised bog and associated habitats. Uncommon moss <i>Sphagnum pulchrum</i> present.	Retain high water table to enable peat forming mosses to grow	Monitor and continue to control regeneration of exotic tree species and fire prevention
Property: Creggan County: Westmeath European Site: Crosswood Bog SAC	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Ballasport & Kilwarden County: Meath European Site: Mount Hevey Bog SAC	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and continue to control regeneration of exotic tree species and fire prevention
Property: Shanderry County: Laois European Site: Coolrain Bog SAC	High quality raised bog present in Coolrain Bog.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Tonagh County: Westmeath European Site: Lough Ree SAC	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Cloondara County: Longford European Site: Lough	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention

Forbes Complex SAC			
Property: Goreport County: Westmeath European Site: Moneybeg and Clareisland Bogs SAC	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Mount Jessop County: Longford European Site: Mount Jessop Bog SAC & NHA	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Drewstown County: Meath European Site: Girley (Drewstown) Bog SAC & Girley Bog NHA	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow; continue to work with local community group	Monitor and control regeneration of exotic tree species and fire prevention
Property: Derrya County: Westmeath European Site: Garriskil Bog SAC & Lough Derravaragh NHA	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Kilfrancis County: Offaly European Site: Cangort Bog NHA	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Property: Wooddown County: Westmeath European Site: Wooddown Bog SAC & NHA	Includes areas of good quality active raised bog and associated habitats.	Retain high water table to enable peat forming mosses to grow	Monitor and control regeneration of exotic tree species and fire prevention
Blanket Bog (PB2), Wet Heath (HH3) and Dry Heath (HH1) – HCV			
Properties: Boleybrack and Barlear, County: Leitrim European Site: Boleybrack Mountain SAC	Extensive areas of blanket bog and associated habitats	Protect habitat	Maintain open peatland habitats
Properties: Doon, Seltan, Altakeeran County: Leitrim European site: Cuilcagh Anierin Uplands SAC	Extensive areas of open blanket bog and other peatland habitats such as wet heath; much of area within SAC	Maintain open areas	Control grazing
Properties: several in the Slieve Bloom Mountains including Cardtown, Glendine, Glenletter, Tulla and Crumlin, Glenconra, Tinnahinch, Baunreagh and The Island. Counties: Offaly and Laois: European site: Slieve	Extensive areas of open blanket bog and other peatland habitats such as dry heath and wet heath; much of area within SAC; former LIFE blanket bog restoration project	Maintain open areas	Protect from fire, prevent drainage, control encroaching conifers in open areas

Bloom SAC and SPA			
Petrifying springs (FP1) - HCV			
Property: Glendossaun County: Offaly European site: Slieve Bloom Mountains SAC, Slieve Bloom Mountains SPA	Priority Annex I habitat, tufa springs, within alluvial woodland with characteristic <i>Cratoneuron</i> moss.	Protect habitat	Monitor and open up canopy if required
Dystrophic lakes (FL1) - HCV			
Property: Doon County: Leitrim European Site: Cuilcagh - Anierin Uplands SAC	Aquatic habitat part of peatland complex	Protect habitat	Maintain
-Turlough (FL6)			
Property: Knockbarron, County: Offaly European Site: N/A	Unusual turlough-like hollow in esker complex	Retain as important feature within woodland-esker complex	Monitor and prevent drainage
Alkaline fen (PF1) - HCV			
Property: Bnm Boora County: Offaly European Site: N/A	Peatland contains a small excellent orchid-rich site	Remove remaining conifers	Monitor

Forest habitats in Midlands BAU

Main Properties	Habitat Quality	Management Strategy 2006-2010	Issues to be Addressed
Oak-birch-holly Woodland (WN1) – HCV			
Property: Higginstown County: Westmeath European Site: N/A Cloncrow Bog (New Forest) NHA	Extensive oak-birch-holly woodland over bog. Rare plants. Small area of oak-ash-hazel on mineral soils. OWS.	Retain existing oak-birch-holly woodland. Increase area of oak - ash woodland habitat.	Monitor site.
Property: The Slip County: Laois European Site: Slieve Bloom Mountains SPA	Narrow stretch of oak woodland and mixed high forest on OWS.	Retain native woodland	Control invasives
Oak-ash woodland (WN2)			
Property: Blackwood County: Offaly European Site: N/A	Young native woodland and mixed high forest on OWS.	Retain native woodland	Thin as required
Wet willow-alder-ash woodland (WN6)			

Property: Lough Rynn County: Leitrim European Site: N/A Clooncoe Wood NHA	Wetland woodland with birch and holly	Retain native woodland	Control laurel/ rhodo
Property: Bellamont, Dartrey, The Island County: Cavan and Monaghan European Site: N/A pNHA Dromore Lakes	Very extensive area of diverse habitats including lakes and wet woodland. Good diverse flora. OWS and NHA	Maintain mixed high forest. Increase native woodland.	Control deer and invasives
Mixed Woodland (WD1)			
Property: Erne Head County: Longford European Site: N/A Lough Gowna pNHA	Large OWS; mixed high forest, native oak woodland and wet woodland	Maintain existing mixed broadleaf woodland. Restore/increase native woodland.	Control invasives, rhodo and laurel.
Property: Balrath County: Meath European Site: N/A Balrath Woods pNHA	Moderate sized mixed broadleaf woodland with rare plants (wintergreen and bird cherry). Part OWS.	Maintain mixed woodland habitat.	Monitor
Property: Dysart County: Laois European Site: N/A	Extensive mixed woodland; OWS	Maintain mixed high forest	Monitor
Mixed broadleaved/conifer Woodland (WD2, WD3)			
Property: Colt County: Laois European Site: N/A	Mixed birch and conifer high forest on OWS	Increase the native element; maintain the good structure. Gradual removal of conifers	Monitor
Conifer Woodland (WD4)			
Property: Gartinadress County: Cavan European Site: N/A	Mixed of conifer high forest and mixed high forest on OWS	Increase the diversity of the stand through CCF, favour native species	Monitor natural regeneration and invasives
Property: Oakwood County: Cavan European Site: N/A	Mixed of conifer high forest and mixed high forest on OWS and adjacent to SAC	Increase the diversity of the stand through CCF, favour native species	Monitor natural regeneration and invasives
Millennium Forests			
Property: Lacka County: Laois	OWS	Manage as native woodland	Thin as required
Property: Derrygorry County: Monaghan	OWS	Manage as native woodland	Thin as required
Property: Portlick County: Westmeath	OWS	Manage as native woodland	Owned by Westmeath County Council and managed by Coillte; thin as required

Species in Midlands BAU

Main Properties	Supporting Habitat	Actions	Management prescription
Hen Harrier (<i>Circus cyaneus</i>)			
Property: Bragan, Knockanearla, Stramackilroy County: Monaghan European Site: Slieve Beagh SPA Eshbrack Bog NHA	Extensive area of bog, heath and lake habitat. Associated with riparian habitat and conifer woodland (young plantations and open mature heather used for nest sites). Rare species present. Part NHA.	Consider continuous availability of pre-thicket plantation in planning.	Retain existing unplanted blanket bog, lake and heath habitat. Avoid disturbance due to forestry operations during breeding season.
Properties: Tulla and crumlin, The island, Brittas, Castletown, Gorteennameale, Gorteen, Glendine, Capard County: Offaly and Laois European Site: Slieve Bloom Mountains SPA	Open blanket bog for foraging hen harrier; pre-thicket plantation for nesting.	Consider continuous availability of pre-thicket plantation in planning.	Retain existing unplanted blanket bog and heath
Red Grouse (<i>Lagopus lagopus hibernicus</i>)			
Property: Doon, Seltan County: Leitrim European Site: Cuilcagh - Anierin Uplands SA Corry Mountain Bog NHA	Extensive open peatland areas	Boleybrack Red Grouse Habitat Management Project in association with NPWS	Maintain open peatland habitat
Golden Plover (<i>Pluvialis apricaria</i>)			
Property: Doon, Commas County: Cavan European Site: Cuilcagh - Anierin Uplands SAC	Extensive area of bog and heath.	Retain existing unplanted blanket bog and heath habitat.	Protect habitat
Common Wintergreen (<i>Pyrola minor</i>)			
Property: Knockdrin County: Westmeath European Site: N/A	Extensive wetland. Good quality lake with native and mixed broadleaf woodland habitat. Part OWS. Good flora and rare species. NHA.	Maintain water levels. Restore wetland habitat. Restore native woodland. Maintain mixed woodland. Control invasive non-native species.	Monitor
Property: Balrath County: Meath European Site: N/A	Moderate sized mixed broadleaf woodland with rare plants. Part OWS. NHA.	Maintain mixed woodland habitat. Protect rare species.	Maintain fenced area.
Leisler's bat (<i>Nyctalis leisleri</i>) and other bat species			
Property: Castletown County: Offaly	Oak stands/mixed woodland Some of the	Maintain, expand and develop broad-leaved	Conserve roosts and bat boxes

European Site: N/A	breeding sites are not Coillte owned	feeding corridors	
Red Squirrel (<i>Sciurus vulgaris</i>)			
Property: Carn Park County: Westmeath European Site: Carn Park Bog SAC	Cone species such as Scots Pine and Norway Spruce.	Retain some of these species where possible.	Maintain the woodland habitat
Property: Jamestown County: Meath European Site: Jamestown Bog NHA			
Property: Erne Head County: Longford European Site: N/A			
Property: Knockbarron, County: Offaly European Site: N/A			
Property: Derrycassan, Woodville County: Longford European Site: N/A			
Property: Mote Park County: Roscommon European Site: N/A			
Property: Emo Park County: Laois European Site: N/A			
Property: Ravensdale County: Louth European Site: Carlingford Mountain SAC			
Great Spotted Woodpecker (<i>Dendrocopus major</i>)			
Property: Erne Head County: Longford European Site: N/A	Mature Broadleaves	Retain broadleaves and standing deadwood	Maintain habitat.
Property: Castlesaunderson County: Cavan European Site: Lough Oughter And Associated Loughs SAC			
Property: Derrycarne County: Leitrim European Site: N/A			

Species

In terms of species, notable species identified in the BAUs forests are listed below

Key:

Published National Red Lists	
RED STATUS- Ireland Red Lists using IUCN (2001)	BoCCI-Birds of Conservation Concern in Ireland 2020-2026
- RE Regionally Extinct - CR Critically Endangered - EN Endangered - VU Vulnerable - NT Near threatened - LC least concern - dd data deficient - na not assessed	- Red High conservation concern - Amber Medium conservation concern - Green Low conservation concern

SPECIES	RED STATUS	BoCCI
Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>)	LC	
Leisler's bat (<i>Nyctalis leisleri</i>)	LC	
Pine Marten (<i>Martes martes</i>)	LC	
Badger (<i>Meles meles</i>)	LC	
Red Squirrel (<i>Sciurus vulgaris</i>)	LC	
Irish hare (<i>Lepus timidus hibernicus</i>)	WA	
Otter (<i>Lutra lutra</i>)	LC	
Hen Harrier (<i>Circus cyaneus</i>)		Amber
Great Spotted Woodpecker		Green
Red Grouse (<i>Lagopus lagopus hibernicus</i>)		Red
Golden Plover (<i>Pluvialis apricaria</i>)		
Common Wintergreen (<i>Pyrola minor</i>)	NT	
St Dabeoc's Heath (<i>Daboecia cantabrica</i>)	LC	
Toothwort (<i>Lathraea squamaria</i>)	LC	
Birds' nest orchid (<i>Neottia nidus-avis</i>)	LC	

Marsh Fern (<i>Thelypteris palustris</i>)	NT	
Lesser Twayblade (<i>Listera cordata</i>)	LC	
St Patrick's cabbage (<i>Saxifraga spathularis</i>)	LC	
Brown beak-sedge (<i>Rhynchospora fusca</i>)	NT	
Buckthorn (<i>Rhamnus cathartica</i>)	LC	
Pipewort (<i>Eriocaulon aquaticum</i>)	NT	
Slender Cottongrass (<i>Eriophorum gracile</i>)	NT	
Bearberry (<i>Arctostaphylos uva-ursi</i>)	LC	
Juniper (<i>Juniperus communis</i>)		
Irish heath (<i>Erica Erigena</i>)	LC	
Lesser butterfly-orchid (<i>Platanthera bifolia</i>)	LC	
Maiden ferns (<i>Thelypteris</i>)	NT	
Lemon-scented fern (<i>Oreopteris limbosperma</i>)	LC	
Acute sedge (<i>Carex acuta</i>)	NT	
Narrow-leaved Hellborine (<i>Cephalanthera longifolia</i>)	VU	
Bog sedge (<i>Carex limosa</i>)	LC	
Cranberry (<i>Vaccinium oxycoccos</i>)	LC	
Crowberry (<i>Empetrum nigrum</i>)	LC	
Bog cranberry (<i>Vaccinium oxycoccos</i>)	LC	
Great fen-sedge (<i>Cladium masiscus</i>)		
Slender sedge (<i>Carex lasiocarpa</i>)	LC	
Greater spearwort (<i>Ranunculus lingua</i>)	LC	

Appendix III – Recreation Facilities in the BAU

Location	Description
Rossmore Forest Park (Monaghan)	There are 4 signposted walks in Rossmore: The Nature Trail, The Lake Walk, The Castle Trail and the Access for All Trail. There is a picnic area in the Forest Park.
Senator Billy Fox Memorial Park (Monaghan)	The park consists mainly of old broadleaf woodland and a few open areas of lawn ideal for a picnic. The park has many natural walkways and a river running through it with a new bridge crossing at one point.
Mullaghmeen (Westmeath)	The area has an extensive network of way marked trails for varying levels of fitness including an Access for All Trail. There are a number of historical features in the forest including archaeological monuments, a Booley Hut and Flax pits.
Ravensdale Forest (Louth)	There are 3 way marked trails in the forest, the Tain Trail, the Ring of Gullion and the short but interesting Ravensdale Loop. The forest is rich in archaeological features such as the standing stones just a short detour off the Ravensdale Loop and has many interesting features such as bridges and old driving roads
Townley Hall (Louth)	There are two suggested trails in the wood ranging in length from 1 to 2 kms. There is a picnic area and car park facility.
Slieve Foye Woods (Louth)	There are a number of walks in the wood. Picnic areas in the forest offer panoramic views.
Dún A Rí Forest Park (Cavan)	There are 4 signposted walks in Dún a Rí: The Nature Trail, The Village Walk, The River Walk and the Access for All Trail. There is a picnic area on site.
Killykeen Forest Park (Cavan)	There are several trails and a picnic area in the forest park. A family friendly cycling trail has been completed in partnership with HNR (Harnessing Natural Resources) – a cross border funded agency.
Newcastle Wood (Longford)	There are 28km of walking routes throughout the mixed woodland. There are 4 trails including a multi access trail.
Derrycassan (Longford)	There is a picnic area and several viewing points by the lake. There are three suggested walks in the wood, the “Nature Trail”, the “Walled Garden Walk” and the “Main Avenue Walk”.
Derrycarne (Leitrim)	The woodland provides a very pleasant walk along the shore of Lough Boderg. The remains of an ice house can be seen along the shore. The trail passes through a variety of mixed woodland.
Burren (Cavan)	The Midlands BAU is home to the world’s first cross- border UNESCO designated Geopark, encompassing the mountainous areas of West Cavan and Fermanagh. Burren occupies 124ha and within it are in excess of 30 tombs dating from Neolithic times to the early bronze age, old field systems and some 19 th century artefacts. Most of the present forest was planted in mid 1950’s and helped to protect the archaeological and geological features of the site. Burren is a ‘rocky’ relict landscape of significant archaeological and cultural importance. The site contains monuments, habitation sites and fields surviving from prehistoric times and some are older than the pyramids There is an interpretative centre and a network of roads with paths which offer scenic views of the surrounding landscape in addition to the archaeological and geological resources.
Durrow Abbey (Offaly)	Car park and looped walk through a variety of mixed woodland adjacent to Durrow Abbey.

Location	Description
Garryhinch (Offaly)	Garryhinch Forest is part of the old Warburton Estate. The woodlands consist of mixed conifer and broadleaf and lies on both sides of the river Barrow. There is a picnic area and a car parking facility.
Glasderry Wood (Offaly)	This wood, part of an old woodland site, was formerly part of the Lloyd estate and was acquired by the State in the late 1950's. It is approx 100 metres above sea level. A feature of this site is Lough Roe, an artificial lake. This lake was created for the estate to ensure a plentiful supply of water for the domestic needs, the gardens and recreational needs of the Lloyd family who lived in nearby Gloster House. There are a number of viewing points around the lake on this walk. While there are no way marked trails here, woodland and lakeside walk. The forest road and paths do provide a very pleasant.
Glenafelly Forest Recreation Area (Offaly)	This recreation area takes visitors into the more remote parts of the Slieve Bloom Mountains and allows walkers to explore the geology and former uses of this upland area.
Glenregan Forest Recreation Area (Offaly)	The forest envelopes both sides of the Camcor valley and offers great views over the valley onto west Offaly and the River Shannon. There is an extensive network of forest roads for walking and trekking.
Golden Grove (Offaly)	This is part of an old woodland site on mineral soil over limestone. From the car park, there is a beautiful view of the countryside. The main tree species in this wood are Beech, Scot's Pine, Ash and Norway Spruce. There is an abundance of animal and birdlife here. The most striking aspect of the flora is the profusion of bluebells that carpet a large area of the woodland in the spring. The Golden Grove River is to the south-east of the car park. While there are no waymarked trails in Orange Hill Wood, the loop of forest road and paths does provide a very pleasant walk.
Knockbarron Wood (Offaly)	This site is an area of old woodland with much ecological interest at whatever time of year you visit. There is an ecological walk with notable features of a Turlough and Eskers.
Brittas (Laois)	Brittas is adjacent to the village of Clonaslee, Co. Laois at the foothills of the Slieve Bloom mountains. The first section of the Brittas Loop follows the path of the River Clodiagh through mature stands of Douglas fir. The trail passes by Brittas lake and car park. The lake is a very popular spot for picnics and quiet relaxation as it is very secluded. There is a stand of large mature Scots pine on the lakeside which is the ideal backdrop to the lake.
Carrick Wood (Laois)	This is a reasonably small site with a picnic area and forest walk. The beautiful broadleaf woodland features a prominent local landmark, the 18th century Spire. It is set on a high point in the wood and has a striking architectural presence. It can be seen from several miles away. Restoration work on the Spire was completed in 2005. The main tree species are beech with some Scots pine and European larch.
Glenbarrow (Laois)	Glenbarrow is one of the most scenic parts of the Slieve Bloom area with its waterfalls and steep valley. The area has four way-marked marked trails with car parking facilities.
Monicknew (Laois)	The site is a trailhead for a section of the Slieve Bloom Way (a National Waymarked Way) and also has a number of other walking and hiking trails. Adjacent to the Slieve Bloom Way trailhead is Monicknew Bridge through which the Glen river flows. Pleasant picnic sites adjacent to stream with car parking facility.

Location	Description
The Cut – Glendine (Laois)	The Cut is located at an elevation of 430 metres in the Slieve Bloom Mountains. Extensive viewing from car park.
Deerpark, Virginia, Co Cavan	Forest trails including a heritage walk (multi-access). Car parking facilities.
Black Island, Co Monaghan	This is an island of 50 ha adjacent to Castleblaney. There is a looped walk around the island and car parking facilities.
Castle Lake, Bailieborough, Co Cavan	Looped walk around lake and car parking facilities.
Mullrick, Co Longford	Car park fishing facilities and lake side walk.
Summerhill, Co Meath	Looped walk with car park.
Littlewood, Co Meath	Looped biodiversity walk with car park.
Bawnboy, Co Cavan	Looped walk with car park.
Emo Park, Co Laois	Multi forest walks. Adjacent to Emo Court.
Oughaval, Co. Laois	Car park, picnic area, looped walks
Dunmore, Co. Laois	Car park, 'Leafy Loop Walk' along River Nore
Kellavil, Co. Laois	Lakeside walk. Fishing.
Glenfarne Co. Leitrim	Picnic Site, Boat launch, Walking Trails, cycle trail, Viewing Points, fishing platforms

Appendix IV – BAU 3 Monitoring

BAU 3 – Monitoring 2016-2020		
Economic Parameters		
No	Parameter	Output
Establishment		
1	Afforestation (Hectares)	83
2	Restocking (Hectares)	6,402
3	Later Manuring Area Aerially Fertilised (Hectares)	70
Harvesting		
4	Clearfelled area (Hectares)	3,857
5	Thinning Area (Hectares)	8,703
Silvicultural Systems		
6	LISS*Areas including OWS** (Hectares)	9,119
Species Composition		
7	Primary species	50% area of BAU
8	Secondary species***	15% area of BAU
9	Broadleaves	26% area of BAU
10	Open Space	9% area of BAU
Chemicals		
11	Chemical usage (kgs active ingredient/ha)	Please refer to Section 4.3 for national figures
Land Transactions		
12	Area sold by BAU (Hectares)	501.31
Environmental Parameters		
No	Parameter	Output
Biodiversity		
13	Biodiversity area identified	20%
14	Biodiversity sites identified	10,196
15	Biodiversity management plans completed	15
16	Biodiversity features recorded	10,196
17	Deadwood: Standing	Please refer to Section 3.6.3
18	Deadwood: Fallen	Please refer to Section 3.6.3
19	Forest roads constructed	82,731m
20	Forest road upgrades	448,517m
Forest Health		
21	BAU Forest Health Survey - Results	No damage recorded
22	BAU Forest Health Survey - Actions	No action required
Abiotic Damage		
23	Fires – area damaged (Hectares)	682.49
24	Windthrow area (Hectares)	344.14
Deer Culls		
25	Deer Cull Returns	788
Social Parameters		
No	Parameter	Output
Cultural Heritage		
26	Protected archaeological monuments identified	387

Recreation		
27	No of Deer Licences Issued	58
28	Hunting (Game) Licences Issued	121
29	Recreation Licences Issued	628
30	Visitors to forest parks in BAU	1,169,574
Consultation		
31	Stakeholder Queries	782
Community		
32	Community partnerships	12
Health and Safety		
33	Dumping & Litter	Refer to Section 1.5.4

* Low Impact Silvicultural Systems

** Old Woodland Sites

***Secondary species are all other conifers outside of Sitka spruce, e.g: DF, LAR, LP, LPS, NS, OC, SP.

Appendix V – Forest Details

(A) Actual Volumes 2016-2020

BAU	2016	2017	2018	2019	2020	Grand Total
B3	385,100	361,765	411,(B)220	408,968	93,947	1,661,001

(B) Forecast Volumes 2021-2025

Forest	Forest Gross Area (ha)	Clearfell Volume m³					Thinning Volume m³					Clearfell Area (ha)				
		2021	2022	2023	2024	2025	2021	2022	2023	2024	2025	2021	2022	2023	2024	2025
CN01 - Macnean East	583	7,579	422	6,302	3,678	6,142	46	0	1,570	1,248	2,848	14	1	13	9	10
CN02 - Glangevlin	1,010	0	2,770	1,639	1,646	3,867	2,879	1,004	388	3,907	2,048	0	7	4	3	8
CN03 - Swanlinbar	1,019	20,774	221	7,516	7,413	2,137	2,280	1,893	2,589	1,572	1,733	54	1	18	16	6
CN04 - Bawnboy	1,734	18,895	12,843	10,752	13,419	19,707	5,013	5,659	11,017	7,466	5,162	43	36	33	41	57
CN05 - Cavan	1,459	11,190	8,519	5,526	10,423	13,318	789	1,390	1,415	734	4,245	26	17	12	18	23
CN06 - Cootehill	633	9,162	1,875	7,099	8,059	5,402	213	2,243	176	929	679	18	4	12	14	12
CN07 - Baillieboro	342	4,761	633	2,141	0	4,508	0	0	0	842	106	13	1	5	0	11
CN08 - Dunari	211	0	2,479	0	0	0	75	0	0	0	128	0	5	0	0	0
CN09 - Virginia	431	288	82	0	476	330	0	0	0	472	0	0	0	0	3	3
CN10 - Foxfield	123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LD01 - Gowna	316	1,067	0	0	311	4,356	0	328	0	0	0	2	0	0	0	7
LD02 - Ballinalee	1,556	3,355	4,204	0	2,490	3,780	467	524	604	593	644	6	8	0	7	5
LD03 - Ballymahon	1,564	4,633	2,521	7,546	3,825	4,057	1,687	1,394	397	365	1,108	12	6	16	13	7
LH01 - Dundalk	1,572	13,318	17,990	9,998	14,897	11,167	347	753	257	157	861	23	44	18	28	20
LH02 - Drogheda	133	0	1,400	0	2,475	772	0	0	0	0	0	0	3	0	3	1
LM03 - Kiltyclogher	1,409	14,788	7,252	24,036	6,894	5,502	2,501	1,414	2,871	2,053	1,391	33	15	46	10	11
LM06 - Killargy	3,020	2,066	12,287	17,863	1,524	29,476	5,690	3,643	3,901	7,441	7,554	4	25	42	3	63
LM07 - Macnean West	812	7,969	11,958	1,308	16,606	3,004	451	625	910	783	702	14	18	2	27	4
LM08 - Lough Allen	4,092	26,641	42,192	9,221	39,090	29,349	10,458	6,879	8,768	3,454	8,624	62	103	22	95	70

Midlands BAU Five Year Forest Plan 2021-2025

LM09 - Garadice	2,148	8,356	5,128	13,633	2,617	12,853	1,458	3,489	144	1,378	2,571	16	11	29	5	21
LM10 - Mohill	613	5,788	186	7,507	12,815	3,904	3,326	1,513	2,398	1,858	804	11	0	17	29	12
LM11 - Newtowngore	299	0	0	220	0	11,445	466	3,319	2,809	1,000	1,046	0	0	0	0	52
LM12 - Crummy	463	3,654	795	3,565	1,545	14,300	1,240	5,158	4,851	1,809	1,096	9	4	12	3	41
LS01 - Clonaslee	2,113	7,298	7,390	997	30,428	13,312	2,875	4,684	3,597	2,646	4,176	13	15	3	68	29
LS02 - Emo Park	603	568	519	381	0	0	741	0	652	0	0	1	1	1	0	0
LS03 - Derries	618	10,120	1,875	2,401	5,404	0	0	0	0	0	0	22	4	6	12	0
LS04 - Straboe	437	0	324	74	1,531	6	0	0	0	0	0	0	1	0	3	0
LS05 - Ballyfin	181	553	4,159	0	0	1,883	0	237	0	0	0	1	13	0	0	3
LS06 - Glenbarrow	1,622	6,130	1,274	29,263	4,640	21,556	2,412	905	2,809	6,714	2,012	16	2	80	12	40
LS07 - Tinnahinch	1,008	305	21,664	2,054	5,982	0	0	0	0	0	0	1	44	4	11	0
LS08 - Baunreagh	2,006	28,214	7,003	10,987	57,166	35,668	1,607	1,453	861	6,497	2,818	49	13	22	89	52
LS09 - Glendine	2,511	22,822	26,089	19,647	35,401	19,430	9,540	5,142	6,562	8,050	5,098	48	49	40	70	38
LS10 - Lacka	496	0	857	2,871	1,317	943	1,265	608	679	0	1,269	0	2	5	4	1
LS11 - Mountrath	239	0	0	1,856	4,859	961	1,030	0	0	0	0	0	0	6	18	2
LS12 - Portlaoise	645	2,239	2,303	8,567	1,014	2,074	450	61	38	474	468	5	4	14	3	4
LS13 - Cullenagh	1,262	6,512	13,141	23,757	13,151	10,072	2,309	2,009	1,295	1,714	4,581	12	24	49	23	25
LS14 - Stradbally	468	340	510	2,175	5,082	601	0	131	0	481	656	1	1	5	11	2
LS15 - Rossmore	1,098	13,053	0	8,790	264	0	1,319	2,061	1,807	2,116	5,914	26	0	24	1	0
LS16 - Durrow	776	115	0	3,142	0	0	534	328	0	805	0	0	0	6	0	0
LS17 - Erril	439	8,345	6,535	1,783	0	653	0	0	0	0	0	19	14	4	0	2
MH01 - Nobber	157	0	0	0	334	852	0	0	788	105	0	0	0	0	1	1
MH02 - Kells	308	1,331	314	6,675	48	2,357	0	0	214	0	70	2	1	10	0	3
MH03 - Navan	430	0	0	1,013	55	362	0	0	0	0	0	0	0	2	0	0
MH04 - Summerhill	539	933	0	5,323	1,318	11	0	0	0	0	0	2	0	11	3	0
MN01 - Bragan	1,948	4,583	8,809	3,747	6,021	5,817	2,396	2,623	3,150	4,438	4,906	7	17	7	22	14
MN02 - Clones	644	1,861	2,788	1,909	3	22,085	1,467	2,215	832	377	486	6	7	5	0	54
MN03 - Monaghan	726	854	6,188	330	3,950	428	0	72	0	278	2,022	2	12	1	5	1
OY01 - Ballydaly	2,208	2,993	16,187	29,236	6,806	6,504	0	1,131	229	543	142	6	33	57	11	13

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OY02 - Derrycoffey	2,991	4,688	3,549	18,580	5,273	24,449	548	2,128	371	169	0	13	7	39	13	52
OY03 - Garryhinch	301	5,491	1,382	136	0	4,655	525	0	0	0	0	9	3	0	0	10
OY04 - Killeigh	234	1,869	0	0	0	1,185	111	0	305	0	0	4	0	0	0	1
OY05 - Knockbarron	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OY06 - Birr	283	1,503	0	4,999	0	3,395	0	0	0	0	0	4	0	10	0	9
OY07 - Kinnitty	1,489	19,958	17,064	8,713	14,510	16,317	545	119	1,463	473	722	37	32	16	29	29
OY08 - Glenafelly	1,088	14,575	43,367	22,344	13,126	4,755	957	566	956	54	629	29	84	42	24	6
OY09 - Shinrone	765	7,705	7,376	14,623	6,247	707	0	182	0	0	1,118	16	16	30	14	2
RN04 - Frenchpark	973	9,052	18,473	13,257	1,824	1,124	709	1,380	272	635	1,238	15	38	28	2	3
RN05 - Carrowbehy	1,110	4,888	3,408	930	2,042	0	1,769	1,206	1,478	249	0	11	7	3	5	0
RN06 - Derrylahan	549	1,241	0	0	0	0	1,673	2,743	1,999	1,881	1,533	2	0	0	0	0
RN07 - Stonepark	630	2,900	1,344	2,018	169	661	599	268	467	1,454	1,248	7	3	5	1	3
RN08 - Loughglinn	1,211	3,098	5,687	4,770	8,932	1,344	2,629	1,977	1,714	3,207	329	6	12	9	26	2
RN09 - Doughill	1,351	5,993	15,016	8,296	8,959	2,894	3,015	6,060	5,026	3,718	971	20	38	18	20	8
RN11 - Dunamon	742	6,786	3,521	0	0	6,793	1,258	573	1,234	335	186	22	6	0	0	11
RN12 - Correen	411	3,047	0	183	0	0	57	1,234	267	1,026	458	6	0	0	0	0
RN13 - Kilronan	450	4,742	0	1,483	1,277	0	0	393	1,649	393	163	8	0	4	2	0
RN14 - Oak Port	1,085	4,051	7,533	3,503	1,346	2,816	816	1,932	1,840	1,539	1,114	10	14	6	2	4
RN15 - Rockville	519	8,451	437	5,198	5,140	1,856	3	0	182	0	599	18	1	11	9	3
RN16 - Mote Park	539	3,649	361	4,858	8,582	328	1,402	1,484	670	0	0	7	1	7	12	2
WH01 - Castlepollard	1,610	2,282	8,173	384	2,628	1,197	0	790	0	0	0	5	18	1	3	1
WH02 - Ballynafid	1,282	3,146	15,050	7,379	7,366	10,082	128	126	13	0	113	6	27	12	11	15
WH03 - Downs	1,225	7,220	4,853	2,366	3,306	5,312	0	475	0	0	0	12	9	5	6	12
WH04 - Lough Ennell	614	737	0	2,091	0	732	0	0	0	0	0	1	0	3	0	1
WH05 - Ballymore	776	2,205	2,266	686	5,098	834	0	0	0	0	0	4	5	2	9	1

Appendix VI – Catchments and Sub-Catchments in BAU 3

WFD Catchment No.	WFD Catchment Name	WFD Sub_Catchment No.	WFD Sub_Catchment Name	WFD Catchment No.	WFD Catchment Name	WFD Sub_Catchment No.	WFD Sub_Catchment Name
03	Lough Neagh & Lower Bann	03_6	Blackwater[Monaghan]_SC_010	07	Boyne	07_6	Blackwater[Longwood]_SC_010
03	Lough Neagh & Lower Bann	03_4	BlackwaterTrib_SC_020	07	Boyne	07_12	Boyne_SC_050
03	Lough Neagh & Lower Bann	03_1	CallanRiver[Tassagh]_SC_010	07	Boyne	07_16	Boyne_SC_020
03	Lough Neagh & Lower Bann	03_2	Mountain[Water]_SC_010	07	Boyne	07_18	Boyne_SC_100
03	Lough Neagh & Lower Bann	03_5	Clontibret[Stream]_SC_010	07	Boyne	07_17	Boyne_SC_130
03	Lough Neagh & Lower Bann	03_3	BlackwaterTrib_SC_010	07	Boyne	07_11	Yellow[Castlejordan]_SC_010
06	Newry, Fane, Glyde and Dee	06_7	Glyde_SC_010	07	Boyne	07_13	Boyne_SC_070
06	Newry, Fane, Glyde and Dee	06_3	Dee_SC_010	07	Boyne	07_8	Blackwater[Kells]_SC_030
06	Newry, Fane, Glyde and Dee	06_10	Glyde_SC_030	07	Boyne	07_4	Boyne_SC_010
06	Newry, Fane, Glyde and Dee	06_12	Castletown_SC_020	07	Boyne	07_3	Boyne_SC_080
06	Newry, Fane, Glyde and Dee	06_4	Dee_SC_030	07	Boyne	07_19	Boyne_SC_090
06	Newry, Fane, Glyde and Dee	06_1	Dee_SC_020	07	Boyne	07_15	Boyne_SC_120
06	Newry, Fane, Glyde and Dee	06_8	FANE_SC_010	07	Boyne	07_1	Boyne_SC_110
06	Newry, Fane, Glyde and Dee	06_6	Kilcurry_SC_010	07	Boyne	07_5	Blackwater[Kells]_SC_010
06	Newry, Fane, Glyde and Dee	06_15	Dee_SC_040	07	Boyne	07_9	Boyne_SC_040
06	Newry, Fane, Glyde and Dee	06_13	FANE_SC_020	08	Nanny-Delvin	08_1	Delvin_SC_010
06	Newry, Fane, Glyde and Dee	06_2	Castletown_SC_010	08	Nanny-Delvin	08_3	Broadmeadow_SC_010
06	Newry, Fane, Glyde and Dee	06_9	Big[Louth]_SC_010	08	Nanny-Delvin	08_5	Nanny[Meath]_SC_020
06	Newry, Fane, Glyde and Dee	06_11	Raskeagh_SC_010	08	Nanny-Delvin	08_6	Ballough[Stream]_SC_010
06	Newry, Fane, Glyde and Dee	06_14	BURREN_SC_010	08	Nanny-Delvin	08_4	Nanny[Meath]_SC_010
06	Newry, Fane, Glyde and Dee	06_5	Glyde_SC_020	09	Liffey and Dublin Bay	09_3	RyeWater_SC_010
07	Boyne	07_2	Boyne_SC_030	09	Liffey and Dublin Bay	09_1	Liffey_SC_100
07	Boyne	07_14	Moynalty_SC_010	09	Liffey and Dublin Bay	09_5	Liffey_SC_080
07	Boyne	07_10	Blackwater[Kells]_SC_020	09	Liffey and Dublin Bay	09_10	Tolka_SC_010
07	Boyne	07_7	Deel[Raharney]_SC_010	14	Barrow	14_18	Barrow_SC_060
07	Boyne	07_20	Boyne_SC_060	14	Barrow	14_3	Figile_SC_010

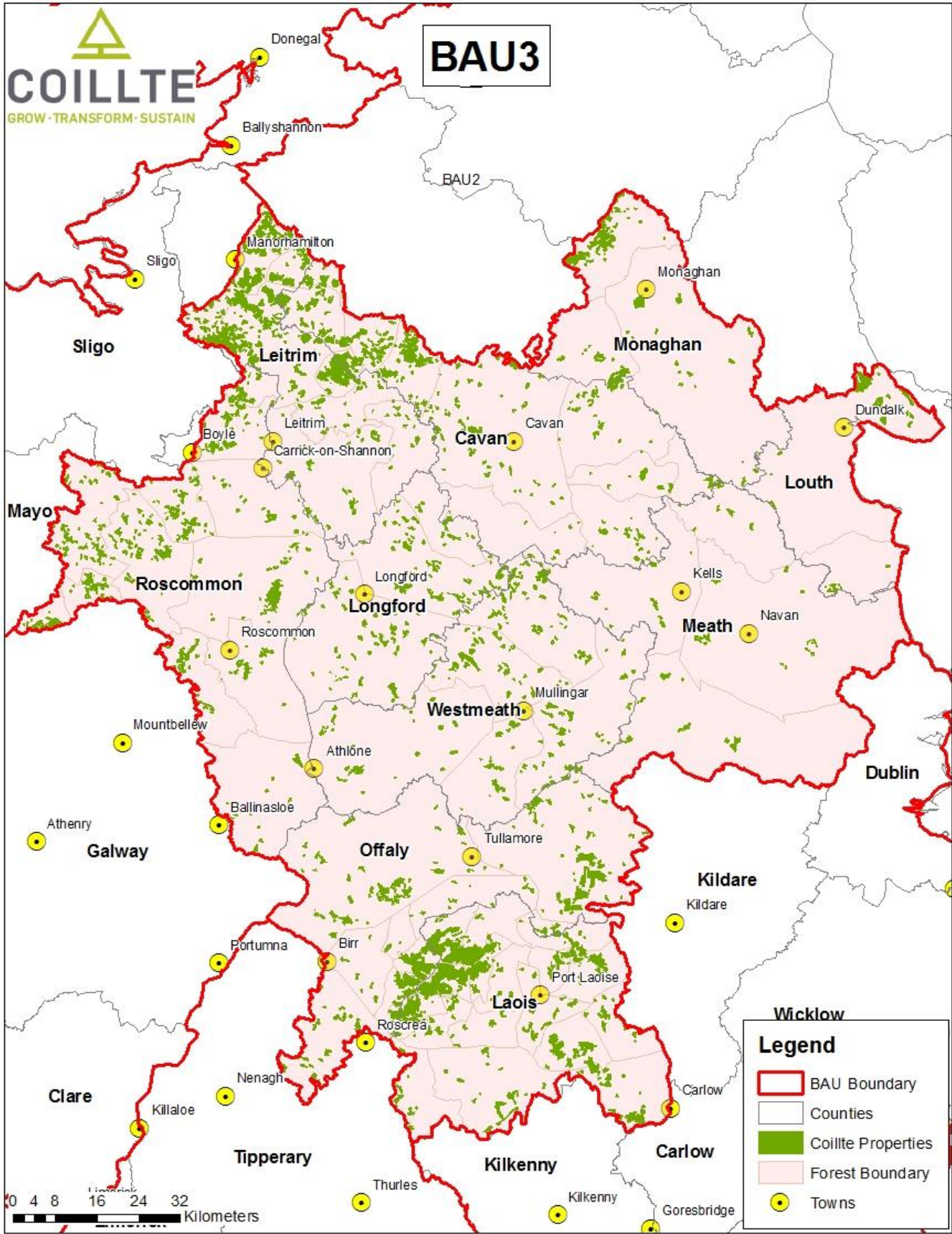
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WFD Catchment No.	WFD Catchment Name	WFD Sub_Catchment No.	WFD Sub_Catchment Name	WFD Catchment No.	WFD Catchment Name	WFD Sub_Catchment No.	WFD Sub_Catchment Name
14	Barrow	14_13	Barrow_SC_090	25A	Lower Shannon	25A_9	BROSNA_SC_030
14	Barrow	14_1	Barrow_SC_030	25A	Lower Shannon	25A_10	BROSNA_SC_010
14	Barrow	14_16	Slate_SC_010	25A	Lower Shannon	25A_2	BROSNA_SC_050
14	Barrow	14_11	Barrow_SC_020	25A	Lower Shannon	25A_3	Silver[Tullamore]_SC_010
14	Barrow	14_5	Barrow_SC_110	25A	Lower Shannon	26F_1	Inny[Shannon]_SC_070
14	Barrow	14_20	Barrow_SC_040	25A	Lower Shannon	25A_4	Tullamore_SC_010
14	Barrow	14_15	Barrow_SC_010	25A	Lower Shannon	25A_5	BROSNA_SC_040
14	Barrow	14_2	Barrow_SC_080	25A	Lower Shannon	25A_12	Silver[Kilcormac]_SC_010
14	Barrow	14_12	Barrow_SC_070	25A	Lower Shannon	25A_1	BROSNA_SC_080
14	Barrow	14_14	Figile_SC_020	25B	Lower Shannon	25B_3	Camcor_SC_010
14	Barrow	14_17	Barrow_SC_050	25B	Lower Shannon	25B_7	LittleBrosna_SC_020
15	Nore	15_13	Nore_SC_010	25B	Lower Shannon	25B_6	LittleBrosna_SC_010
15	Nore	15_15	Goul_SC_010	25C	Lower Shannon	25C_9	Ballyfinboy_SC_010
15	Nore	15_3	Dinin[South]_SC_010	25C	Lower Shannon	25C_4	Ollatrim_SC_010
15	Nore	15_10	Nore_SC_040	26A	Upper Shannon	26A_6	Yellow[Ballinaglera]_SC_010
15	Nore	15_14	Erkina_SC_010	26A	Upper Shannon	26A_5	Shannon[Upper]_SC_010
15	Nore	15_7	Nore_SC_060	26B	Upper Shannon	26B_4	Boyle_SC_030
15	Nore	15_9	Nore_SC_020	26B	Upper Shannon	26B_1	Breedoge_SC_010
15	Nore	15_12	Dinin[North]_SC_010	26C	Upper Shannon	26C_2	Black[SouthLeitrim]_SC_010
15	Nore	15_1	Nore_SC_030	26C	Upper Shannon	26C_1	Shannon[Upper]_SC_080
15	Nore	15_16	Nore_SC_050	26C	Upper Shannon	26C_3	Owenur_SC_010
15	Nore	15_21	Nore_SC_070	26C	Upper Shannon	26C_11	Shannon[Upper]_SC_030
16	Suir	16_22	Suir_SC_010	26C	Upper Shannon	26C_8	Shannon[Upper]_SC_070
25A	Lower Shannon	25A_6	CLODIAGH[TULLAMORE]_SC_010	26C	Upper Shannon	26C_5	Shannon[Upper]_SC_040
25A	Lower Shannon	25A_7	BROSNA_SC_020	26C	Upper Shannon	26C_9	Shannon[Upper]_SC_050
25A	Lower Shannon	25A_8	BROSNA_SC_060	26C	Upper Shannon	26C_12	Scramoge_SC_010
25A	Lower Shannon	26F_4	Inny[Shannon]_SC_040	26C	Upper Shannon	26C_4	Cloone[LoughRinn]_SC_010
25A	Lower Shannon	25A_11	BROSNA_SC_070	26C	Upper Shannon	26C_7	Shannon[Upper]_SC_060

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WFD Catchment No.	WFD Catchment Name	WFD Sub_Catchment No.	WFD Sub_Catchment Name	WFD Catchment No.	WFD Catchment Name	WFD Sub_Catchment No.	WFD Sub_Catchment Name
26C	Upper Shannon	26C_10	Eslin_SC_010	36	Erne	36_13	Woodford[Cavan]_SC_010
26C	Upper Shannon	26C_6	Camlin_SC_010	36	Erne	36_2	ColebrookeRiver[Cooneen]_SC_010
26E	Upper Shannon	26E_5	Hind_SC_010	36	Erne	36_6	Blackwater[Newtowngore]_SC_010
26E	Upper Shannon	26E_6	Shannon[Upper]_SC_090	36	Erne	36_3	Bunnoe_SC_010
26E	Upper Shannon	26E_3	Clooneigh_SC_010	36	Erne	36_11	Annalee_SC_020
26E	Upper Shannon	26E_2	Knockcroghery_SC_010	36	Erne	36_15	Yellow[Ballinamore]_SC_010
26E	Upper Shannon	26E_1	Bilberry_SC_010	36	Erne	36_14	Finn[Monaghan]_SC_020
26E	Upper Shannon	26E_4	Breensford_SC_010	36	Erne	36_5	Annalee_SC_030
26F	Upper Shannon	26F_10	Inny[Shannon]_SC_080	36	Erne	36_17	Finn[Monaghan]_SC_010
26F	Upper Shannon	26F_8	Inny[Shannon]_SC_050	36	Erne	36_21	Erne_SC_030
26F	Upper Shannon	26F_5	Inny[Shannon]_SC_090	36	Erne	36_7	Blackwater[Newtowngore]_SC_020
26F	Upper Shannon	26F_7	Inny[Shannon]_SC_020	36	Erne	36_16	Annalee_SC_010
26F	Upper Shannon	26F_2	Inny[Shannon]_SC_060				
26F	Upper Shannon	26F_6	Inny[Shannon]_SC_010				
26F	Upper Shannon	26F_9	Inny[Shannon]_SC_030				
26F	Upper Shannon	26F_3	Mountnugent_SC_010				
26G	Upper Shannon	26G_2	Shannon[Upper]_SC_100				
36	Erne	36_12	Dromore_SC_010				
36	Erne	36_1	MacneanTribCuilcaghMountains_SC_010				
36	Erne	36_10	Dromore_SC_020				
36	Erne	36_18	Erne_SC_020				
36	Erne	36_19	Cullies_SC_010				
36	Erne	36_23	Swanlinbar_SC_010				
36	Erne	36_9	Laragh_SC_010				
36	Erne	36_24	MacneanLoughsconnector_SC_010				
36	Erne	36_4	Cavan_SC_010				
36	Erne	36_8	Erne_SC_010				
36	Erne	36_22	Erne_SC_040				

Appendix VII – BAU Map



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