



Forestry, Ecology & Environment



“Veon Ecology is dedicated to ensuring that all activities follow best practice in compliance with environmental legislation. By working with our clients, Veon Ecology’s vision is to provide a quality service that is practical, sustainable and professionally accredited...”

Veon Ecology

Decision makers in commercial organisations and governments increasingly recognise the need to incorporate environmental concerns into their operations and understand the impact that their activities are making on the natural world.

These organisations need to balance development plans with the protection of our natural environment, our flora and fauna, and our habitat resources.

External pressures on natural resources, including climate change, population growth and land use changes, impact on developmental decisions that must be resolved within a strict legislative framework.

Veon recognises the importance of maintaining a balanced ecosystem which supports both human development and enhances the biodiverse environment in which we all live. The value of biodiversity and the benefits gained from ecosystem services reach far beyond that which can be measured in financial terms.

Veon ecologists are committed to identifying and creating solutions for our clients to protect, enhance and monitor biodiversity values, and avoid or mitigate any potentially negative impacts predicted to arise from proposed activities.

Veon Ecology is dedicated to ensuring that all activities follow best practice in compliance with environmental legislation. By working with our clients, Veon Ecology’s vision provides a quality service that is practical, sustainable and professionally accredited.

Our ecology team are members of the Chartered Institute of Ecology and Environmental Management (CIEEM).

We provide a wide range of ecological and hydro-ecological services to a broad range of clients including government and non-government bodies together with corporate clients. In addition, Veon Ecology proudly supports our wide base of farm forest owners as they navigate the increasingly complex forest licencing system.

Veon Ecology offers ongoing monitoring and management advice across a range of commercial and agricultural industry sectors to help our clients meet increasingly stringent approval requirements when assessing the impact on biodiversity.

Our ecologists are highly experienced in working as part of project teams with engineers, hydrologists, hydrogeologists, environmental scientists and others, and are engaged in projects covering natural ecological and impact assessments, natural resource management, and wildlife monitoring. These include the design and implementation of cost-effective surveys and reports which assist in achieving project approval from relevant government authorities and regulatory bodies.

We undertake Ecological Appraisals, Ecological Impact Assessment (EcIA) and ecological aspects of Environmental Impact Assessment Reports (EIAR) of development projects. We also deliver a wide range of ecological and hydro-ecological services to assist our clients in achieving their objectives including: Appropriate Assessment services as required under the Habitats Directive, including Screening for Appropriate Assessment (AA) and Natura Impact Statements (NIS), Ecological Impact Assessment (EIA) and Appropriate Assessment reports as required under the Habitats Directive.

1. Habitat and Botanical Surveys

Extended Phase 1 Habitat Surveys

The Phase 1 Habitat Survey is the core element of a Preliminary Ecological Appraisal and is conducted at early-stage development planning. The survey is usually the first ecological survey conducted and determines whether there is a requirement for additional species-specific surveys. If such a requirement exists, then an Extended Phase 1 Habitat Survey is conducted to encompass additional protected species or habitat preservation.

Phase 2 Habitat Surveys

Phase 2 Habitat Surveys are usually conducted following the findings from a Phase 1 Habitat Survey if initial ecological site results have ascertained the existence of habitats of high potential nature conservation value. These findings may be useful when considering the impact of a land-use development change and thus impact on the strategic mitigation options available when submitting planning applications.

Flora/Botanical Surveys

Sites that contain semi-natural habitats may require more detailed botanical surveys.

Veon ecologists can create Flora and Flora management plans for our clients to assess and develop management strategies to mitigate the loss of vegetation, biodiversity and ecosystems when proposed other land-uses are being considered.

These strategic options include the conservation of woodland communities, land rehabilitation and remediation and the ongoing monitoring of the subject area with detailed management strategies for all fauna groups with specific strategies for individual fauna groups and species.

These may be used in formal Ecological Impact Assessments (EclA) and Fauna and Flora Impact Sections within Environment Impact Statements (EISs). They may also help clients to identify if there are any significant ecological constraints on their site and how they may be addressed.



Hedgerow survey Invasive and non-native species survey

Hedgerows are a multi-functional valuable resource in our countryside with a high biodiversity value, benefiting agriculture, wildlife, the environment, tourism, and communities in terms of contributing to a sense of place. But they are vulnerable to destruction, especially from clearance or inappropriate management.

Veon Ecology believes in the protection of trees and hedgerows from developments that could impact adversely upon them. Using proven survey methodology, our ecologists can provide detailed data on the nature and variation of hedgerows to determine the current composition, structure, condition, extent and management of hedgerows within a site and monitor changes in the resource over time.

Positive hedgerow management, conservation, and enhancement can benefit a wide range of end users, from forestry, the farming community, hedgerow-cutting contractors, to town and county planners and environmental consultants.

2. Freshwater and River Surveys

Freshwater Surveys

Veon Ecology can provide baseline surveys of lakes, rivers, streams and other wetland habitats used to establish the condition of Ireland's national and regional catchments & waterways and those species protected under Annex II and IV of the EC Habitats Directive and the Wildlife Acts 1976 and Wildlife (amendment) Act 2000, which utilise them as corridors, foraging routes, breeding grounds, and nesting areas.

Veon ecologists can conduct a range of targeted and/or general Freshwater surveys using recognised techniques and provide essential data on presence/absence and distribution to inform baseline studies and impact assessments including:

Habitat suitability assessments for:

- Eel, Lamprey, Salmonid species, Otters, Wader and Water Birds (particularly Kingfisher), White-clawed crayfish, Freshwater Pearl Mussel Amphibians, Invertebrates, Invasive aquatic floral species and invasive aquatic/semi-aquatic fauna (for example, American Mink, Zebra Mussels, among others)

Our ecologists can offer bespoke surveys for our clients regarding the ecosystems and biodiversity present within watercourses present on their property, and/or an on-going

concern of a proposed site development for the purposes of either biodiversity conservation as part of a structured conservation management plan, or to raise awareness of our natural habitats within the local community as part of Tidy Town and/or ENGO projects and initiatives.

- River corridor surveys
- Freshwater invertebrate sampling

Veon Ecology can provide clients with appropriate mitigation measures to ensure that conservation of protected flora and fauna populations are integrated into their projects.

River Corridor Surveys

River Corridor is a term used to describe a stretch of water course, its banks and neighbouring land; surveys generally defined as land and vegetation within 50m of the riverbank but dependent on how the nearby land is affected by the water course. Surveys of water vegetation and surrounding land assess the value of the habitat for a variety of wildlife and are used to inform decision-making on habitat quality and appropriate management. Where watercourse surveys are required to assess potential impact from proposed land-use change developments, further investigation may be required to predict development impact on flood management strategic options.



3. Protected Species/Mammal Surveys

Many terrestrial mammal species, both in Ireland and Northern Ireland, are protected by both national and EU level legislation.

Veon Ecology provides a range of terrestrial mammal survey, assessment and mitigation works for all species of conservation importance in Ireland and protected species that may be resident within the area of a proposed development.

Our ecologists are qualified to carry out a range of bat surveys and for non-volant mammals, including Badger, Otter, Fox, Pine marten, Red squirrels, Hedgehogs, and Water voles, among others.

Projects that may impact the existing environment often require a mammal survey. These projects can include: Afforestation proposals, Thinning and Clearfelling operations, Road and infrastructural developments, Agriculture and land clearance, Wind-energy developments, Flood alleviation schemes, and Public and Private property developments.

Veon Ecologists can advise on the protection status, appropriate survey methodologies, procurement of derogation licences and mitigation measures required for species of conservation importance in Ireland.



- Our survey methodology includes:
- presence or absence surveys (including the identification and mapping of Otter holts and Badger Setts)
 - Breeding territory surveys
 - foraging and commuting route surveys

Veon Ecology surveys follow mammal survey methodologies approved for use in Ireland by the National Parks and Wildlife Service (NPWS), the Chartered Institute of Ecology and Environmental Management (CIEEM) and in Northern Ireland by the Northern Ireland Environment Agency (NIEA). All Veon ecologists are members of CIEEM.

Bats

Veon Ecology can provide a range bat surveys and bat consultancy services to projects, including Afforestation proposals, Thinning and Clearfelling operations; Land clearances requiring the removal of trees and/or derelict structures; Road projects and other infrastructure projects such as works on bridges; Renewable energy developments, including wind energy and small hydro schemes; Refurbishment or redevelopment of existing public and private buildings and houses; Private or public Tree felling or landscaping works; Flood schemes, and arterial drainage maintenance schemes.

- Presence/absence surveys
- Night-time bat activity surveys
- Building and structural surveys
- Tree root surveys

Veon Ecology are independent consultants and are not associated with any national or local bat groups, however our bat-specialist ecologists regularly contribute to annual monitoring of bat species organised by Bat Conservation Ireland.

Birds

Veon Ecology is experienced in undertaking bird surveys for a wide range of impact assessment studies including: Forestry – Afforestation, Thinning & Clearfelling, Reforestation, and Enhancement projects; Wind energy developments; Coastal developments; Recreational and Residential schemes.

Veon Ecology’s ornithology-specialists are also experienced in the recording and monitoring of targeted or general resident and migrant bird species and populations across a range of habitats and for public and private projects which fall under a number of scenarios, including but not limited to:

- Breeding bird surveys for impact assessments and conservation management plans
- Breeding and overwintering wader and wildfowl surveys
- Vantage point surveys: for wind energy developments and other infrastructure projects
- Raptor surveys: including hen harrier and owl surveys

All Birds surveys are carried out using Best Practice techniques and in accordance with accepted methodologies and guidelines as appropriate.

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4. Natura Impact Statements (NIS)

Habitat and species evaluation is central to the Natura Impact Statement (NIS) process. This input must be supplemented by additional expertise and experience (e.g. geology, hydrology, engineering, planning), as required.

Veon ecologists have the requisite ecological expertise and experience required to undertake the necessary ecological surveys, research and analysis.

We can provide the ecological surveys needed to assess whether a species of conservation interest (SCI) or habitat of qualifying interest (QI) is present, and to what extent. The type of survey applicable will vary greatly, from a general habitat walkover survey to a more detailed field survey.

The following are some examples of various permutations that may arise. (Note, these examples are given for illustrative purposes

only, and ecological expertise will inform the type of survey required in relation to any particular project.)

Ex Situ - Projects located outside a Natura site

Standard practice is for a General habitat walkover survey to be undertaken to assess whether the project area contains a particular habitat(s) utilised by a species listed as a qualifying interest of the Natura site.

For example, part or all of the project area may contain a particular habitat used for resting and grazing by a wintering flock of a particular bird species listed as a qualifying interest of a designated or proposed Special Protection Area (SPA).

Additionally, for any project located outside of a Natura site, required site assessment is

undertaken to evaluate whether or not the project area has a functional connection with the Natura site. For example, drainage associated with the project may affect an adjoining Special Area of Conservation (SAC) with one or more designated Annex I habitats. Such assessments often require some level of hydrological expertise.

In Situ - Projects located within a Natura site

Ecological surveys (ranging from a habitat walkover survey to a detailed field survey) are undertaken to determine whether or not a particular habitat or species listed as a qualifying interest is present, likely to be present, or absent within the project area.

For example, if a project lies within an SAC with a terrestrial qualifying interest such as wet heath, a habitat survey will be necessary to identify whether that habitat occurs within the project area.

Similarly, if a project is within an SAC with a terrestrial qualifying interest such as Desmoulin’s whorl snail (Vertigo moulinsiana), a species survey or a species habitat survey will be required to determine if the species occurs or has the potential to occur within the project area.

Also, any other effects (e.g. on water quality or the hydrology of the site) must be assessed.

Typically, a detailed field survey is required if the project is located within a Natura site and where the qualifying interests include terrestrial habitats and species.

Biodiversity survey and assessment

A biodiversity survey undertaken by Veon ecologists will identify habitats and ecosystems which are important to protect or enhance. The methodology used will be designed to especially protect threatened species and ecosystems and requires a deep understanding of ecosystem resilience, tipping points and how various threats – from climate change through to invasive species – affect native species.

Veon’s experienced ecologists will identify impact-avoiding and mitigation recommendations including post-development biodiversity enhancement proposals to ensure best practice and relevant legislation is complied with.

Environmental Auditing

Veon’s environmental audit is in essence an environmental management tool to independently measure the effects of certain existing or proposed activities on the environment against pre-selected industry criteria.

Each environmental audit will vary depending on the specific focus of the audit whether it is a compliance, management or process audit report which has been requested.



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“Veon’s experienced ecologists provide ecological monitoring services which involves systematic regular long-term observations of phenomena within a certain time-frame and specific geography. Monitoring often relates to changes in a geographic area due to community, governmental or non-governmental activities and is used to support decisions on future steps....

5. Environmental and Ecological Planning Approvals

Prior to submitting a planning application, Veon ecologists will conduct environmental and ecological surveys to ensure that delays in the application process can be avoided at the outset, especially if protected or priority species are found to be present. Veon’s ecologists will ensure that if such site characteristics are present then measures are planned and devised to ensure that the planning authority is satisfied that any detrimental effects can be avoided or sufficiently compensated for before planning permission can be granted.

Veon can assist land-use change developers in this process and offers a comprehensive robust environmental and ecological pre-screening application process.

Ecological Monitoring

Veon ecologists provide ecological monitoring services which involves systematic regular long-term observations of phenomena within a certain time-frame and specific geography. Monitoring often relates to changes in a geographic area due to community, governmental or non-governmental activities and is used to support decisions on future steps.

Ecological monitoring can be understood as the collection, analysis and interpretation of data on the natural environment and on changes that occur in a certain ecosystem. It attempts to observe living and non-living aspects of the biosphere, the response of the environment to human interventions and to predict actual or likely impacts. Accordingly, Veon’s ecologists use the latest technical monitoring techniques to facilitate understanding processes in the environment and thus enable project implementers and target groups to recognise negative ecological effects of their activities at an early stage and to avert them appropriately.

Biodiversity Offsets

Biodiversity offsetting is a new and developing tool for ecological compensation.

Biodiversity offsets are measurable conservation outcomes that result from actions designed to compensate for significant, residual biodiversity loss and unavoidable impacts of projects from land-use change. They are intended to be implemented only after reasonable steps have been taken to avoid and minimise biodiversity loss at a development site.

Biodiversity offsets are only appropriate for projects which have rigorously applied the mitigation hierarchy framework, a widely accepted approach for biodiversity conservation.

The primary objective of offsetting is to achieve a No Net Loss of biodiversity and preferably a Net Gain when projects proceed. Measures which have not been specifically designed to result in a No Net Loss and preferably a Net Biodiversity Gain are not biodiversity offsets.

The achievement of Biodiversity Offsetting is dependent on measurable, appropriately implemented, monitored, evaluated and enforced offset schemes.

Biodiversity offsets should be seen as a measure of last resort and may not be appropriate in certain land-use change situations.

Project Management

Effective environmental project management requires a different management focus to achieve the goal of sustainable development.

Veon’s ecologists have significant experience in environmental project management including report preparation, work plans, performing site investigations, and collecting, processing and evaluating data. These management professionals establish project needs and monitor work in progress to ensure final objectives are met. The Veon team liaise with on-site professionals from different disciplines and ensure adherence to Health and Safety requirements to deliver a high quality project outcome within budget.

5. Environmental and Ecological Planning Approvals *continued*

Stakeholder Engagement

Veon recognises that Stakeholder engagement is critical to the success of the process by which organisations communicate and get to know their stakeholders. By getting to know these people, organisations are able to better understand what they want, when they want it, how engaged they are and how the organisation's plans and actions will affect their objectives.

Dealing with people, rather than facts or technical needs is a complex challenge for any planner. In any business or project situation, there are many different groups and individuals who need to be engaged and kept informed with a clear and consistent communications strategy.

The steps of stakeholder relationship management are to identify – prioritise – understand – communicate and engage – and measure, taking a methodical approach, exploring issues which will lead to providing solutions.

Key to the success of stakeholder engagement for Veon is as follows:

- Understanding the process for identifying, prioritising and managing stakeholders
- Developing a deeper understanding of stakeholders and their needs
- Effective communication of clear and consistent messaging
- Knowing what engagement strategies to use and how to use them
- Understanding behavioural strategies to plan and manage stakeholder relationships.

Effectively engaging others is fundamental to success, as it ensures higher value outcomes are delivered; people have a more positive experience and risks and cost overheads are reduced.

Geographic Information System (GIS) and Drone Surveys

Our experienced Land Surveyors use the latest Surveying GPS units and instruments to quickly survey the land. This modern equipment allows Veon survey large areas of land quickly and accurately, pinpointing specific interests that require further attention

Invasive Species Removal

Veon provides site surveys covering invasive species the most common of which are Japanese Knotweed, Giant Hogweed, Himalayan Balsam and Rhododendron Ponticum and will provide an appropriate solution.

Carbon Measurement & CO₂ Mitigation through Forestry

Professionally managed forests provide an optimal and cost-effective solution for climate change mitigation. Veon works with their clients to initially quantify and report on the existing stock of carbon held in their client's forest portfolio and then provides specialist silvicultural advice to implement advanced forest management techniques to maximise carbon sequestration within the forest portfolio.

Forests reduce atmospheric carbon dioxide through natural biological growth and store carbon in forest biomass and forest soil. Indeed, the products of forests continue to store carbon for long periods while the forest they came from regenerates storing yet more carbon. However, due to the overall heterogeneous and dynamic nature of forest ecosystems and end product utilisation, estimation and forecasting of these processes is complex.

Veon utilises the most dynamic software currently available in forest management to

help corporates, and forest owners achieve their environmental objectives and achieve more sustainable policy, plan and project outcomes.

Models and assumptions are based on the most up to date data and research, and we strive for continuous improvement of our carbon calculations in close collaboration with our clients and partners.

Veon will report and measure the amount of carbon stored in a client's existing forest portfolio or in researching a proposed forest portfolio for acquisition purposes based on potential carbon offset.

Veon's Carbon and CO₂ Mitigation report will examine the standing stock at the beginning of a pre-agreed time frame and analyse and report on the biological growth during the period. The report will include carbon impact from new planting on the portfolio and wood sales during the period.

Following the delivery of Veon's Carbon and CO₂ Mitigation report, Veon will engage with the client to assess options and propose a Carbon Forest Management Plan to explore strategic solutions to help maximise carbon sequestration and storage within the forest portfolio.

Carbon mitigation strategies are developed to provide real reductions in greenhouse gas (GHG) emissions by reducing, absorbing or avoiding the release of carbon dioxide to make real climate impact. Periodical forest carbon updates for institutional forest owners provide increasingly important messaging to engage stakeholders and shareholders.

Our bespoke solutions and climate smart forest management planning and decision making is now available to all forest owners and corporates seeking forest carbon emission reporting and mitigation solutions.

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About Veon

Headquartered in Ireland, Veon Ltd has over 30 years' experience in assessing, acquiring and managing significant forest portfolios for our corporate and private clients.

Veon Ecology is a leading ecology consultancy and promotes best practice in ecological assessment, planning and management to a diverse range of clients.

Our international consulting division engages in sourcing, delivering and managing CSR projects on behalf of our clients in sub Saharan Africa and Southeast Asia.



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