EMBRACING BIODIVERSITY AT INTEL

BUSINESS IN THE COMMUNITY IRELAND
Intel Ireland has a long history of supporting biodiversity at our campus in Leixlip. 2016 has been for us a year of renewed focus on biodiversity both here on our site and in the local community. We are honoured to be the first company in Ireland to use Business in the Community Ireland’s innovative Biodiversity Framework to shape our approach to biodiversity management.

The Framework aligns a suite of interrelated biodiversity actions to five pillars of responsible and sustainable business - Environment, Community, Marketplace, Governance and Workplace. The framework has helped us to build on our existing work and to articulate a set of actions that can further our biodiversity efforts in the future.

Our employees have been an integral part of this journey and have volunteered and participated in projects such as restoring the Orchard on site, planting a butterfly bed in the community and supporting our Tidy Towns and schools with additional environmental projects. I would also like to acknowledge the importance of the strong relationships we have built with our surrounding communities and to thank them for their ongoing support.

Intel has a long history of commitment to the environment and this is something that we have proudly demonstrated here in Ireland for over 25 years. I hope you enjoy reading this book which gives a flavour of some our projects both past and present, and of our plans to continue our commitment to biodiversity in the future.

EAMONN SINNOTT
I NTEL IRELAND GENERAL MANAGER

ABBREVIATIONS

BITCI Business in the Community Ireland
CBD UN Convention on Biological Diversity
CSAC Candidate Special Area of Conservation
IFI Inland Fisheries Ireland
KCC Kildare County Council
NPWS National Parks and Wildlife Service
SDGs UN Sustainable Development Goals
UCD University College Dublin
UN United Nations
WWF World Wildlife Fund

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1. INTRODUCTION

Intel Ireland is a leader when it comes to voluntary on-site biodiversity action in Ireland. Since its arrival in Kildare, the company has enhanced, restored and created biodiverse habitats in and around its campus by embedding biodiversity in its Environmental Management System. It has also shared its initiatives beyond the limits of its site by supporting local partnerships for nature and engaging employees in its efforts to support local wildlife. It has also shared its activities with other companies through the Business in the Community Ireland (BITCI) Biodiversity Learning Network.

In 2016, building on the range of biodiversity protection activities already in place, Intel Ireland identified additional biodiversity protection measures arising from its achievement of the Business Working Responsibly Mark and from the innovative Biodiversity Framework for Business, developed by BITCI, which Intel was the first company in Ireland to use.

This document outlines the history of biodiversity protection, enhancement, restoration and habitat creation action on the Intel Ireland campus in Kildare as well as broader environmental engagements and the activities for the coming years.
Biodiversity loss is one of the most significant environmental threats facing the planet in the 21st Century. Biodiversity is the variety of life on earth and without it, we couldn’t survive. It plays a fundamental role in the provision of food, fuel, fibre, medicines, clean air and water, and physical and mental wellbeing, among many other things. However, recent studies have found that biodiversity is being lost at least 1,000 times faster than the natural rate and is now considered to be below safe levels across 60% of the earth.

This loss has been attributed to a number of factors relating to human activity, including the destruction and degradation of the places (habitats) where wildlife lives, breeds and eats; the spread local balance of flora and fauna; pollution; over-exploitation; and climate change.

According to the World Wildlife Fund (WWF) 2016 Living Planet Report, global populations of fish, birds, mammals, amphibians and reptiles declined by 58 per cent between 1970 and 2012. The report states that “we could witness a two-thirds decline in the half-century from 1970 to 2020 – unless we act now to reform our food and energy systems and meet global commitments on addressing climate change, protecting biodiversity and supporting sustainable development.”

Ireland is not immune to these trends and, despite its green image, its biodiversity is also under serious threat. Certain rare or unique species and habitats in Ireland are protected under EU Directives, including a network of designated sites known as the Natura 2000 Network, but a recent publication from the National Parks and Wildlife Service (NPWS) found that 91% of protected habitats are classified as either ‘bad’ or ‘inadequate’, and that 48% of protected species are ‘unfavourable’, ‘bad’ or ‘unknown’. More worryingly, the vast majority of habitats - 86% of Ireland’s land area and 98% of our seas - are not protected. While information on the state of biodiversity in these areas is limited, we do know that many once-common species are at risk of extinction, such as the Great Yellow Bumble Bee1, Curlew2, Corncrake3 and six species of Mayfly4.

The Sustainable Development Goals (SDGs) are the framework for the UN’s 2030 global development agenda. The 17 SDGs include three explicit environmental goals on climate change (Goal 13), oceans (Goal 14) and terrestrial biodiversity (Goal 15). Each of these goals is directly connected to biodiversity, but Goal 15 is probably the most tangible as it affirms the need to “protect, restore and promote sustainable use of terrestrial ecosystems ... and halt biodiversity loss”. Speaking at Business in the Community Ireland’s CEO Forum in 2016, economist Professor Jeffrey Sachs referred...
Global biodiversity objectives are also reflected in the UN Convention on Biological Diversity’s (CBD) Aichi Targets 2011-2020. Target 4 refers directly to businesses, stating: “By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.”

In order to engage the private sector, the CBD has established a Global Platform on Business & Biodiversity, which acts as the centre point for a network of national and regional business initiatives across the globe.

One such regional initiative is the EU Commission’s Business @ Biodiversity Platform, which works to facilitate dialogue on the links between business and biodiversity. Its work is underpinned by the EU 2020 Biodiversity Strategy, which states that many companies in Europe and beyond are “assessing their dependency on biodiversity and integrating targets for sustainable resource use into their corporate strategies”. Such activities, it continues, can contribute to a number of the EU’s strategic objectives, including a more resource-efficient economy; a more climate-resilient, low-carbon economy; leadership in research and innovation; and new skills, jobs and business opportunities.

In Ireland, the National Plan on Corporate Social Responsibility refers to the need for companies to have “respect for biodiversity”, while the National Biodiversity Plan 2011-2016 states that “engagement with relevant sectors and stakeholder participation will be key in reaching our targets … (requiring) action between all relevant sectors (government, landowners, business, farming, forestry, scientific and conservation communities, etc.) in support of biodiversity conservation”. The third iteration of the National Biodiversity Plan is due for publication in 2017 and it is anticipated that specific actions for businesses will be included.

Volunteers help to maintain Intel Ireland’s woodland garden by removing species such as Horsetail so as to allow space for a greater diversity of flora.
3. INTEL IRELAND’S BIODIVERSITY SUPPORTS

3.1. BACKGROUND

Intel Ireland has a long history of supporting biodiversity on its Collinstown site in Kildare.

3.2. RIVER RYE

Since 1992, the company has collaborated with University College Dublin (UCD), Kildare County Council (KCC) and community groups to restore the Rye River. In addition, the Intel Ireland site has a designated Candidate Special Area of Conservation (CSAC) which surrounds the Rye River. This area was designated under the EU Habitats Directive. Enhancing this natural resource, which is one of the most important salmon-spawning grounds in the Liffey catchment, has improved its ecological and amenity value and ensured that the scientific data gathered through the project is available for public review. Supporting the Rye River has also benefitted Intel - the company is seen as a trusted member of the local community through its continued commitment to enhance the Rye River, while increased employee and community awareness has gradually garnered third party endorsement. These positive impacts continue through the ‘Friends of the Rye’ – a group of interested people, whose members include: Intel External Affairs Manager and Environmental Engineers, Dr Jan Robert Baars (UCD), representatives from Kildare County Council (KCC) and Inland Fisheries Ireland (IFI), the local water bailiff, Ryevale Resident Association, Carton House and Leixlip District Angling Association.

The Group meets four times per year to discuss the health of the river and plan areas for improvement. Now with almost 25 years of data, the Rye River remains the only river in Ireland with a documented study dating back this far. The survey measures water quality at designated sites and studies also exist on macroinvertebrates, salmon and trout in the river. Works have also been carried out over the years to improve the river such as vortex stone weirs, excavation of pools and placement of salmon spawning gravels at intervals throughout the river.

3.2.1. SALMONID STUDY

Both the Salmonid Regulations (S.I. 293/1988) and Habitats Regulations (S.I. 94/1997) require the protection of the habitats that support both trout and salmon. In addition to assessing the water quality of the Rye River, an annual assessment is conducted on the salmonid population in stretches along the Intel site.

This survey has been supported for over 25 years and the annual results provide a valuable assessment of trout and salmon population trends, as well as important insights into how environmental factors (like rainfall) and anthropogenic factors (like climate change, land use change) influence the population. These insights will continue to inform how best the catchment can be managed into the future.

3.2.2. INVERTEBRATE STUDY

Several other aquatic species are dependent on the river that runs through the Intel site and maintaining water quality and the condition of the habitats (like the riparian habitat) supports these species. One such protected invertebrate is the White-clawed crayfish (protected under the Natura 2000 Network).

The annual water quality and fish population studies indicate that the improvement works conducted in 1995 on the river by Intel are still persisting and that Intel is not impacting negatively on the biodiversity of the habitats on its property.
The company has also maintained a mature arboretum on site, which hosts 27 native Irish trees, and has restored its 300-year old orchard. The orchard is home to around 17 apple trees of differing varieties as well as plum and pear trees. Over the years and during Tree Week, volunteers have worked hard to restore and rejuvenate the orchard and more importantly save the trees by removing ivy, cutting back weeds, clearing areas and adding footpaths. This area is popular with staff at lunchtime.

In 2003, Intel Ireland held the Intel Wildlife Competition to document on-site flora, fauna and wildlife in a baseline ecological study of the whole campus. The competition encouraged employees to walk around the site and capture images of the flora, fauna and wildlife throughout the seasons. For this baseline study, the campus was visited on 24 occasions. Visits were made in every season and included all periods from dawn to dusk. The survey found seven different habitats as well as various species of tree, grass, flowering plant, insect (26 types), fish and bird, including Buzzards (Buteo buteo) that nest in the locality, Kingfishers (Alcedo atthis), as well as mammals including the Badger (Meles meles). The most common mammal is the Rabbit (Oryctolagus cuniculus).

In 2015, Intel Ireland initiated the Pride of Place Competition involving partnerships with the Tidy Towns Associations of Leixlip, Celbridge and Maynooth. Each association was invited in early summer to submit three proposals for sustainable initiatives that would enhance the environment of their local community while also engaging people on environmental matters. The general...
public were invited to vote online for their favourite project and the idea which received the most votes received €10,000 funding towards implementing the idea. The company met with the Tidy Towns Committees to support them in devising suitable projects and encouraged them to submit at least one project that promoted the biodiversity of the locality.

Since the inception of the competition, two ‘Big Belly Compactor’ bins have been installed on the main street of Maynooth (a neighbouring town to Intel) with a recent report from the data showing a 69% reduction in the number of collections. Further benefits arise from fewer collections, reducing the manpower required and the fuel from pickups—thus also reducing carbon footprint.

Another winning project selected by the public was “Celbridge Naturally”, a project in the local town of Celbridge, which aims to highlight biodiversity with the creation of a natural heritage information sign, a self-guided nature walk and a web page. The ‘Celbridge Naturally’ project educates the community about the importance of biodiversity by creating a greater understanding and appreciation of the local environment.

1st/10th Kildare Leixlip Scouts group’s winning project was the installation of recycled benches around their fire pit. The Scouts’ leaders visited the producer and before the benches were installed all the children learned how it took over 5,000 soft drinks bottles to make a bench. This awareness drove home the importance of sustainability and recycling.

For years Intel Ireland staff have also volunteered with local schools on environmental initiatives such as can recycling, eco design competitions, the An Taisce green flags for schools initiative, Reduce Our Energy, tree planting and growing vegetable gardens.
Intel Ireland was the first company in Ireland to use BITCI’s innovative Biodiversity Framework to shape its approach to biodiversity management. Launched in 2016, the Framework aligns a suite of interrelated biodiversity actions to the five pillars of responsible and sustainable business (Environment, Community, Marketplace, Governance and Workplace). The Framework supports and encourages companies to exceed expectations by going above and beyond their ordinary responsibilities to the natural world.

Intel Ireland used the Framework to build on its existing work and to articulate a set of actions that would demonstrate its continued leadership in this area. A site visit by BITCI’s Biodiversity Specialist assisted in identifying opportunities for on-site biodiversity enhancement in line with the Framework and these were further developed by the External Relations Manager and an Environmental Engineer to form a Biodiversity Plan for the site.

4. A RENEWED FOCUS

In 2016, building on the biodiversity initiatives already in place, Intel Ireland identified a range of additional biodiversity management measures arising from its achievement of the Business Working Responsibly Mark and from the innovative Biodiversity Framework for Business, developed by BITCI which Intel was the first company in Ireland to use. The Business Working Responsibly Mark certification is based on ISO 26000 guidance for social responsibility and it certifies responsible and sustainable business practices. Previous biodiversity initiatives succeeded in strengthening community relationships and engaging staff and these are ongoing objectives for the company. These drivers, coupled with Intel Ireland’s commitment and a global commitment by Intel worldwide to environmental excellence, presented a solid rationale for Intel Ireland to take further action on biodiversity.
In 2016, Intel Ireland identified a range of additional biodiversity protection measures which are outlined below.

4.2. OVERVIEW OF ACTIONS

- Biodiversity was incorporated into Intel Ireland’s Environmental Management System - ISO 14001 (EMS). Biodiversity is now an integral part of the company’s Environmental Management Plan (EMP) with objectives and goals for the year, and it will be reviewed as per ISO requirements.
- Bird, bat and insect boxes (10 of each) were erected throughout the site in the first half of the year and these were promoted internally through nature walks.
- A Biodiversity Map was developed (see Figure above) and shared with all employees to raise awareness of on-site biodiversity.
- To mark Earth Day (22nd April), the woodland area outside of IR6 was planted with Bluebells and Red Campion, using the expertise of "Design by Nature".
- To mark Ireland’s Biodiversity Week there was a nature walk through the arboretum.
- In June, Intel Ireland was asked to speak at BITCI’s Biodiversity Framework Launch Event to showcase its efforts to 30 corporate delegates from across BITCI’s member network. This resulted in Intel Ireland sharing ideas with other large multinationals.
- In August, 18 members of the Environmental Health and Safety (EHS) Department completed a volunteering session which saw them weed the IR6 woodland area.
- In September, University College Dublin (UCD) in conjunction with Inland Fisheries Ireland (IFI) and Friends of the River Rye group completed a Fossitts Habitat study on the Rye River, which has established a baseline for future studies (see below).
- In September, Intel began working with a local school on a garden to encourage the pupils to learn how to plant, maintain and harvest their own food, while also exploring biodiversity specifically and sustainability within the school garden environs.
- In October, Intel Ireland planted a wildflower meadow on approximately two acres in an effort to support pollinators such as Bees and Hoverflies on site.

4.3. RIPARIAN HABITAT MAP

A habitat map was prepared in 2016 identifying the types of habitats present on the Intel Ireland site, according to the Fossitt classification. This identifies the habitats present and highlights the potential for future improvements that can be made to support biodiversity.

One of the key habitats identified was the river and riparian habitats which are subject to an annual water quality assessment (repeated for over 25 years). As outlined above, an annual assessment is made of the water quality along the entire river catchment indicating the areas of most concern and directing improvement efforts. Other data gathered on the Rye River include Salmonid (Atlantic salmon and Brown trout) and macroinvertebrate studies.

In order to further protect the riparian habitat, along with the creation of a buffer zone between agricultural fields and streams, improvement works were conducted on a section of the catchment as part of a pilot study in conjunction with Kildare County Council (KCC).

The benefits derived from remedial works (that included the removal of sediment, riparian vegetation management to improve diversity of habitats, instream habitat improvements by manipulating and introducing substrates) will inform further targeted improvement efforts in the catchment.

The cumulative benefits from such remedial works are expected to benefit the biodiversity on site and this will be reviewed throughout the coming years.
4.4. **SCHOOLS ENGAGEMENT**

Intel Ireland staff have always volunteered with local schools on environmental initiatives such as recycling, the An Taisce green flags for schools initiative, tree planting, and growing vegetable gardens.

In September 2016, Intel reached out and staff volunteered with a local school to encourage the pupils to learn how to plant, maintain and harvest their own food, while also exploring biodiversity and sustainability within the school garden environs. With a grant from Intel, the school also created a space that has a seating area for lessons, incorporating benches and tables made from recycled products. To attract butterflies, bees and other insects, plants such as Buddleia, Allium, Lavender and Aster and a variety of heathers were planted.

The garden contains butterfly and insect houses and bird feeders. The insect houses will attract more birds and insects to the garden while also giving the pupils an opportunity to explore and study these species.

The Intel Pride of Place Competition, started in 2015, is continuing, with the aim of encouraging the community to identify issues in its local environment and to see which ones it can address with innovative and sustainable ideas that have a positive environmental impact. Ideas can range from setting up a new garden space for the community to developing and training on the use of technology that can, for example, identify when to water plants. Open to any non-profit organisation, school or sporting organisation in the local area, the competition also serves as a way to engage and educate local communities on the topic of environment while conveying Intel’s commitment to environmental leadership.

4.5. **COMMUNITY ENGAGEMENT**

The Rye River catchment, which includes the Lyreen River and its tributaries, has been under environmental pressure for a long time, reflected by the ‘poor’ or at best ‘moderate’ status assigned in recent years by the EPA national water quality monitoring scheme. Biological monitoring conducted on many of the small streams in the Rye River catchment in 2016 (by AQUENS Ltd commissioned by Intel) also supports this finding, with the vast majority of streams reflecting ‘poor’ water quality status. If improvements are to be made and ‘good’ status is to be achieved in the Rye River (as required by the Water Framework Directive) each of the small streams has to be improved in order for the cumulative effect to result in a better water quality status further downstream.

As a result, works were carried on the Clonshambo water and stakeholders included KCC Environment Section, KCC Flood Alleviation Section, local farmers and landowners, Inland Fisheries Ireland and UCD. A range of measures have been implemented including the removal of excess silt down to the gravel bed. Attempts to improve sinuosity were made where possible. Excess overhang was removed to introduce more light. Fallen trees and overgrowth were removed to improve flow and in turn alleviate the risk of flooding. Livestock access to the watercourse has been prevented or restricted to single points along the entire pilot study stretch.

Relatively small changes made at local scale can have considerable benefits for the animals and plants in this river catchment and for efforts to improve the water quality status of the Rye River. The water quality will only improve if enough of the river channel and riparian habitats are improved. The pilot study on the Clonshambo waterbody should inform how this could be achieved. These efforts are being monitored by AQUENS Ltd (commissioned by Intel) to assess if the conditions in the stream are improving for the invertebrates.
5. IMPACTS

5.1. DIRECT BIODIVERSITY IMPACTS

The renewed focus on biodiversity at Intel Ireland is impacting positively on biodiversity at the site thanks primarily to the creation of biodiverse habitats such as the two-acre wildflower meadow and native tree planting and the provision of 10 bird boxes, 10 bat boxes and 10 insect boxes. Well into the future, the seeded meadow will provide food and nesting sources for local pollinators and other insects, and the birds and mammals that feed on them, while the native trees will support a wide range of insects, fungi, birds and animals. This ‘reservoir’ of biodiversity in the area will have positive knock-on effects for biodiversity beyond the site boundary.

The fact that biodiversity was included as an aspect in Intel Ireland’s Environmental Management System (EMS) will ensure continual improvement. The 2016 work is already having positive indirect impacts, too.
The community benefits through Intel Ireland’s work with local Tidy Towns groups, its ongoing Pride of Place initiative and outreach work with local schools. Existing relationships with external stakeholders such as University College Dublin have also taken a new step, thanks to the recent habitat survey of the Rye River mentioned above under 4.1.2.

The biodiversity work impacts on Intel Ireland’s operations by changing the way biodiversity is managed in-house through its integration with Environmental Management Systems, ensuring continual improvement. Further potential for impact on regulatory issues is also noted as biodiversity is now emerging as a planning requirement. Intel employees are reaping the benefits of protecting biodiversity on-site through awareness of biodiversity, the opportunity to participate in biodiversity-related volunteering and nature walks. A biodiversity map of the site has been published in leaflet form and is available to visitors and employees to enable them to enjoy the biodiversity features on site.

The work has boosted Intel Ireland’s reputation as an environmental leader in the Irish business community as evidenced by the fact that it has been approached by other companies to share its knowledge and experience. A new biodiversity case study has also been published on BiTCI’s website.
6. FUTURE DEVELOPMENTS

As well as maintaining the measures commenced above, Intel Ireland has identified the following opportunities for future development of its biodiversity protection on site.

1. **ENVIRONMENT:**
   Continue to make on-site enhancements
   Seek more ways to enhance existing habitats such as hedgerows and lawns, and manage the existing wildflower meadow and woodland areas for biodiversity

2. **WORKPLACE:**
   Continue to engage employees
   Support further on-site volunteering for biodiversity; run more nature-walks and biodiversity workshops; encourage employees to take biodiversity action in their own homes and gardens.

3. **COMMUNITY:**
   Continue to strengthen existing community relationships
   Continue to work with Friends of the River Rye to improve the riparian habitat.

4. **GOVERNANCE:**
   Transfer learnings to other Intel sites
   Share Intel Ireland’s experiences in managing biodiversity and the business impacts with other Intel sites around the world.

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Intel Ireland would like to acknowledge everyone who has contributed to the report as well as those that are working to enhance biodiversity in the community.

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