



South Tipperary Biodiversity Action Plan

2010-2015



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TEXT COMPILED AND EDITED BY MIEKE MUYLLAERT
IN ASSOCIATION WITH THE SOUTH TIPPERARY BIODIVERSITY FORUM

PRODUCED BY LABHAOISE MCKENNA, HERITAGE OFFICER, SOUTH TIPPERARY COUNTY COUNCIL





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ADDRESS FROM THE CATHAOIRLEACH, CLLR. LIAM AHEARN



Lapwing

The natural heritage of South Tipperary has been shaped by its unique landscape and centuries of human influence. From Slievenamon and the Glen of Aherlow, to the fertile valley of the Suir, this natural diversity is an important part of our identity as a county. This is reflected in the choice of the bee as the emblem for biodiversity in South Tipperary, with its association with Cluain Meala and the importance of bee-keeping in the county.

As well as contributing to our sense of place and the attractiveness of our county to visitors, nature supports the sustainable development of the county by providing food, natural resources and clean water and air, and regulating our climate. South Tipperary County Council recognises the importance of our natural heritage both for its own sake and as a fundamental resource for the county. Events such as the Traditional Food and Farming Heritage Day bring together many of the groups involved in sustainable use of natural resources, and raise awareness of the importance of biodiversity in sustaining human existence.

The drafting of this first ever Biodiversity Action Plan for South Tipperary demonstrates the commitment of the council to ensuring that this diversity of biological resources is cherished and managed sustainably for future generations. It is very fitting that the plan is being launched in 2010, International Year of Biodiversity.

The plan has been drafted in a consultative process with the South Tipperary Biodiversity Forum and a range of agencies, organisations and individuals, with the support of the Heritage Council.

On behalf of South Tipperary County Council, I would like to thank all who have contributed to this plan. I wish all of the plan partners every success in its implementation.

River Suir landscape taken from Poulakerry near Kilsbeelan.



ADDRESS FROM THE COUNTY MANAGER, EDMOND O’CONNOR

This plan is an important step in addressing global and national biodiversity issues at local level. It will help us to achieve our objectives under the County Heritage Plan and County Development Plan. Through its focus on practical action and awareness-raising, we look forward to continuing to work with our partners to meet our obligations for the protection and sustainable management of our natural resources for the benefit of all.

I am delighted that South Tipperary County Council has recognised the importance of our local natural heritage by endorsing this plan, and would like to offer the support of management for its implementation. I wish to thank everyone who contributed to its development.

ACKNOWLEDGEMENTS

South Tipperary County Council wishes to thank all those who contributed to the plan, particularly the Biodiversity Working Group of the South Tipperary Heritage Forum. It wishes to acknowledge the support and delivery of the project by Mieke Muyllaert who compiled the plan and who facilitated the input from all stakeholders. Thanks are also due to Heritage Officer Labhaoise McKenna who, as contact officer for natural heritage in the local authority, oversaw the delivery of the plan.

South Tipperary County Council would like to thank the Heritage Council for the support and funding of the plan, particularly Clíona O’Brien.

For further information on the Biodiversity Action Plan and biodiversity projects in the county please contact the Heritage Officer at South Tipperary County Council, County Hall, Clonmel, Co. Tipperary. Tel 052 6134559, email: heritage@southtippcoco.ie.



Marsh orchid



EXECUTIVE SUMMARY

Biodiversity is life. Biodiversity is our life. Having signed the Convention on Biological Diversity in 1992, and ratified it in 1996, Ireland is obliged to take responsibility for halting the loss of biodiversity.

Though this is a global issue, action at local level is vital if we are to slow down, and stop, the rate at which other species are being lost. This is not a luxury item that we can put off until times are better – we rely on the natural environment to provide us with food, fuel, medicine, clean water and other essential services. Not only do we need this to survive, but to provide us with true wealth by helping us be happy, healthy and sustainably prosperous.

Many different habitats are found in South Tipperary – farmland, rivers, bogs and wetlands, heaths, woodlands, towns and villages. Thousands of species including different birds, mammals, plants, insects, fish, amphibians and one reptile live in these habitats. Some of these are still common, with good-sized populations, but others are in decline or are only found in a few places.



There are many reasons why some of this diversity is being lost. The most common reasons are loss of the habitats that species need to live in, introduction of non-native invasive species that push out our native species, and fragmentation of habitats into smaller areas.

Many organisations, groups and individuals, as well as the local authority, are already working to reduce these impacts as well as taking positive action to protect and sustainably manage our natural resources.

This plan sets out to identify the key features of the natural environment in South Tipperary; review what actions are already being taken, and provide a framework to build on these existing actions, over the next five years. This framework is set out in the 'Action for biodiversity' section.

South Tipperary County Council is committed to taking an active lead in implementing this plan, but the plan is for everyone and will only be successful if we all get involved.



BIODIVERSITY – THE WEB OF LIFE

You may have heard the word 'biodiversity' and wondered what it means; well, it's simply the joining together of two words, 'biological' and 'diversity', meaning 'the variety of all living things'. This includes everything from the smallest microbe to the biggest whale, and everything in between – all plants and animals and the habitats they live in. Humans are part of the biodiversity of the planet, and from hunter-gatherers to the present day, have used nature for food, shelter, medicine, and raw materials. Over time this relationship has changed - for example we can now buy our meat in the butchers instead of having to go out and catch it – but the basic principle is the same.

Without a diversity of plants, animals and ecosystems around us, we would not be able to survive. A good example of this is the bee. As many people now know, bees are extremely important because they pollinate plants, including crops that we rely on for food. There are 101 bee species in Ireland, which includes one native honeybee, 19 bumblebee and about 81 solitary bee species. Three of these species have become extinct since 1980, and more than half of the other species have severely declined.

Why is this important? Without bees to pollinate plants, we would not be able to produce most of our food crops, and native wild plants that rely on bees would die out. This would cause natural habitats and farm ecosystems to collapse, and we would not be able to feed ourselves. This is already becoming an issue in some areas, for example where there are not enough bees to pollinate fields of oilseed rape, the farmer suffers loss of productivity. If we lose our bees, Bulmers would not be able to make cider as there would be no apples.

So why are bees declining? Well, bees need many different types of flowers to feed on; some will only gather nectar from certain types of flowering plants, and others need a wide range of different plants. Our native bees are adapted to feed on our native wildflowers. Whenever we remove a hedgerow, reseed grass lawns or fields, spray weeds, or do other activities that change their habitat, we make it harder for bees to find the food that they need. This is because bees, like all other life, rely on the rest of nature to survive. Biodiversity can also be thought of as the web of life, and every time a strand is removed, the web gets a little bit weaker.

In recognition of the importance of biodiversity locally, South Tipperary County Council has produced this first ever Biodiversity Action Plan for the county. This plan gives an overview of what we have, why it is important, and what action needs to be taken to help make sure that future generations also have the benefit of a diverse and healthy environment. The plan will only work if people get involved and contribute to it.

When we go about our lives every day, we are using natural resources. Some of them come from where we live, and some of them come from further away. No matter – every time we use a resource, we affect the web of life. Sometimes we make it stronger, sometimes we shake it a little bit, and sometimes we break one of the strands. This is because we are part of nature.



Red tailed bumble bee on common knapweed



Tipperary Hills Appreciation Day, Heritage Week 2009



Tipperary Town winter landscape

CILL CHAISE

Créad a dhéanfaimid feasta gan adhmad,
tá deireadh na gcoillte ar lár;
níl trácht ar Chill Cháis ná a teaghlach,
is ní bainfear a cling go bráth;
an áit úd ina gcónaíodh an deighbhean
a fuair gradam is meidhir tar mhná,
bhíodh iarlaí ag tarraing tar toinn ann,
is an t-Aifreann binn á rá.

Is é mo chreach fhada is mo léan goirt
do gheataí breá néata ar lár,
an avenue ghreanta faoi shaothar
is gan foscadh ar aon taobh den walk,
an chúirt bhreá a sileadh an braon di
is an ghasra shéimh go tláith,
is in leabhar na marbh go léitear
an tEaspag is Lady Iveagh!

Ní chluinim fuaim lacha ná gé ann
ná fiolair ag déanadh aeir cois cuain,
ná fiú na mbeacha chum saothair
ag thabharfadh mil agus céir don tslua,
níl ceol binn milis na n-éan ann
le hamharc an lae a dhul uainn,
ná an chuaichín i mbarra na ngéag ann,
- ó 'sí chuirfeadh an saol chun suain!

Nuair a thigeann na poic faoi na sléibhte
Is an gunna lena dtaobh is an líon
féachann siad anuas le léan ar
an mbaile a fuair sway in gach tír;
an fhaiche bhreá aoibhinn ina réabhacha
is gan foscadh ar aon taobh ón tsín,
páirc an phaddock ina dairy
mar a mbíodh an eilit a déanadh a scíth!

Tá ceo ag titim ar chraobhaibh ann
ná glanann le grían ná lá,
tá smúit ag titim ón spéir ann,
is a cuid uisce go léir ag trá;
níl coll, níl cuileann, níl caora ann,
ach clocha is maolchlocháin,
páirc na foraoise gan chraobh ann,
is d'imigh an game chun fáin!

Anois mar bharr ar gach mí-ghreann,
chuaigh prionsa na nGael tar sáil,
anonn le hainnir na míne
fuair gairm sa bhFrainc is sa Spáinn -
anois tá a cuallacht á caoineadh,
gheibheadh airgead buí agus bán,
'sí ná tógfadh seilbh na ndaoine,
acht caraíd na bhfíorbhochtán.

Aitím ar Mhuire is ar Íosa
go dtaga sí arís chughainn slán,
go mbeidh rincí fada ag gabháil timpeall,
ceol veidhlín is tinte cnámh,
go dtógfar an baile seo ár sinsear
Cill Chais bhreá arís go hard,
is go brách nó go dtiocfaidh an díleann
ná fheicfear í arís ar lár!

What will we now do for timber
With the last of the woods laid low -
No word of Kilcash or its household,
Their bell is silenced now,
Where the lady lived with such honour,
No woman so heaped with praise,
Earls came across oceans to see her
And heard the sweet words of Mass.

It's a cause of my long affliction
To see your neat gates knocked down,
The long walks affording no shade now
And the avenue overgrown,
The fine house that kept out the weather,
Its people depressed and tamed,
And their names with the faithful departed,
The Bishop and Lady Iveagh!

The geese and the ducks' commotion,
The eagle's shout are no more,
The roar of the bees gone silent,
Their wax and their honey store
Deserted. Now at evening
The musical birds are stilled
And the cuckoo is dumb in the treetops
That sang lullaby to the world.

Even the deer and the hunters
That follow the mountain way
Look down upon us with pity,
The house that was famed in its day,
The smooth wide lawn is all broken,
No shelter from wind and rain;
The paddock has turned to a dairy
Where the fine creatures grazed.

Mist hangs low on the branches
No sunlight can sweep aside,
Darkness falls among daylight
And the streams are all run dry;
No hazel no holly or berry,
Bare naked rocks and cold;
The forest park is leafless
and all the game gone wild.

And now the worst of our troubles,
She has followed the prince of the Gaels -
He has borne off the gentle maiden,
Summoned to France and to Spain
Her company now laments her
That she fed with silver and gold:
One who never preyed upon the people
But was the poor souls' friend.

My prayer to Mary and Jesus
She may come safe home to us here
To dancing and rejoicing
To fiddling and bonfire
That our ancestors' house will rise up,
Kilcash built up anew
And from now to the end of the story
May it never again be laid low.

Irish translation by Professor Dáithí Ó hÓgáin, English translation by Eiléan Ní Chuilleanáin.

(Flood, J & Flood, P., 1999. Kilcash A History 1190-1801, Geography Publications). Photo Maura Barrett.



Winner Primary School
Niamh Burke Age 11, 6th class,
Poulacapple



Winner Secondary School,
Kevin McNerney, St Ailbes



Runner up Primary school
Aaron Quinn and Leah Heffernon
Annacorthy NS

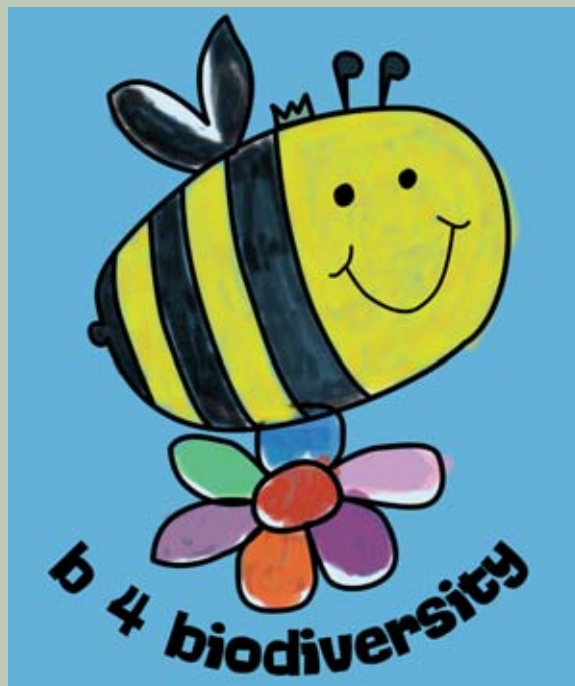


Runner up Secondary School
Teresa Born age 12
Comeragh College

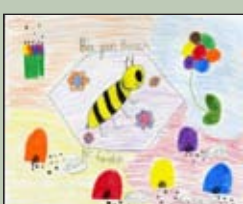
B 4 BIODIVERSITY

The Bee for Biodiversity schools competition was a joint initiative between South Tipperary County Council Heritage Office and Environment Section to help raise awareness of biodiversity and the importance of the bee in South Tipperary. The prizes were announced at the Environmental Awards in December 2009 and an exhibition of all the entries toured the county's libraries in spring 2010.

Karl Dawson's winning entry is the logo of this plan, and of all future communication about biodiversity by South Tipperary County Council. Some of the runner-up entries are featured on this page and can be seen on www.southtipperheritage.ie/B4Biodiversity/.



A SELECTION OF B 4 BIODIVERSITY DRAWINGS



NOT JUST A PRETTY FACE – THE ECONOMIC VALUE OF BIODIVERSITY

Interestingly, biodiversity is a 'public good'. This means that if it becomes scarce or declines, there is no pricing system to show this. It is also an 'open access' resource – many of the services it provides are capitalised on privately, while the costs are often covered by the public purse. A recent report has suggested that the current value of ecosystem services (the services provided for us by nature) in Ireland alone is over €26 billion per year. Earthworms alone could be contributing over €1 billion worth of services to agriculture in maintaining soil structure and fertility.

There's no such place as 'away'...

One example of trying to put a price on the environment as a public good is the 'polluter pays' principle. There are sometimes complaints about the cost of getting rid of waste, such as bin, landfill and waste electronic goods charges. But think about it – where is our waste going? If we throw something out, it doesn't just disappear – it has to go somewhere in the environment. Just because we don't see it any more, doesn't mean it won't cause pollution. By paying for waste disposal, we are acknowledging that getting rid of stuff we don't want anymore has a cost to the environment. So the next time you are throwing something away, think about where that 'away' might be.

www.storyofstuff.com

The Economic and Social Aspects of Biodiversity –
Benefits and Costs of Biodiversity in Ireland

www.npws.ie

*Golden Vale agricultural landscape taken
from Slievenamon*

*Students from Coláiste Dún Iascaigh
taking part in National Spring Clean 2009*





BIODIVERSITY GIVES US GOODS AND SERVICES...

food, fuel and fibre e.g. fish, livestock and crop varieties; apples for cider

shelter, materials e.g. timber for construction; ash for hurleys

maintenance of natural genetic resources for crop varieties and livestock breeds, medicines, and other products; new blight-resistant Sarpo Mira potatoes bred in 2005

provision of medicines; digitalis was first discovered in the foxglove plant

detoxification and decomposition of wastes; composting of kitchen waste

pollination of plants, including many crops; oilseed rape for fodder and biofuels

ability to adapt to change; a variety of ecosystems means we have a 'plan B' if some of them are damaged

moderation of floods, droughts, temperature extremes and the forces of wind; vegetation absorbs water and releases it slowly

purification of air and water; trees on our streets and along our rivers

control of pests and diseases; ladybirds eat greenfly

generation and renewal of soil fertility, including nutrient cycling; worms



Town allotment at Traditional Food and Farming Day, Heritage Week 2009, Clonmel

MEMBERS OF SOUTH TIPPERARY BIODIVERSITY FORUM

National Parks & Wildlife Service

Coillte

Teagasc

Irish Farmers' Association

Tipperary Institute

South Tipperary County Council

Southern Regional Fisheries Board

**South Tipperary
Development Company**

**South Tipperary
Beekeepers Association**

**BirdWatch Ireland
Tipperary Branch**

Bord na Mona

An Taisce

**Clonmel Allotments & Community
Gardens Association**



WHY A LOCAL BIODIVERSITY ACTION PLAN?

From the windswept heathy mountain tops to the fertile lowlands, our county has an amazing variety of habitats. Unlike some remote parts of the world, we have little true 'wilderness' in South Tipperary, or in Ireland – almost all of our landscape has been affected in some way by us. This has been happening since the first people started to arrive in Ireland after the last Ice Age, about 10,000 years ago. In a way, the whole county is a human habitat – yet there are hundreds of other types of animals and plants sharing it with us, not to mention thousands of types of insects, fungi and other small creatures. It is easy to forget that we rely on nature to sustain our lives and that over-using it will cause problems, especially in modern times when we often don't directly see the effects that our everyday actions have, like the disappearance of woodlands, bees and other nature lamented in *Cill Chaise*.

INTERNATIONAL AND NATIONAL OBLIGATIONS

Ireland signed the international Convention on Biological Diversity in 1992 and ratified it in 1996. In response to Ireland's commitment towards implementation of the Convention on Biological Diversity, the Irish government published the National Biodiversity Plan in April 2002. The National Biodiversity Plan has a section dealing with providing for biodiversity at local level, under which there are two specific actions for Local Authorities:

Action 10: Each Local Authority to prepare a local Biodiversity Plan in consultation with relevant stakeholders.

Action 11: Each Local Authority to designate a contact officer for natural heritage conservation matters in its area.

In the section 'Providing for Biodiversity at Local Level', the National Plan states – "It is essential that action is also taken at the local level for the conservation of biodiversity. Local Authorities have potentially a key role here being in the best position to promote heritage conservation generally into local plans and programmes. To provide for the conservation and sustainable use of biodiversity at the local level, two key measures will be put in place, namely, the preparation and adoption of Local Biodiversity Action Plans and the designation of Natural Heritage Officers in all Local Authorities. The primary functions of these officers will be to promote and ensure the conservation of the natural heritage at the local level. The principal means of achieving this will be the formulation of the Local Biodiversity Plan by each Local Authority which will normally be prepared as part of integrated Local Heritage Plans. The initial focus of Local Biodiversity Plans will be on the identification and assessment of the local biodiversity resource".

The making of the local biodiversity action plan is an action of the South Tipperary Heritage Plan.

THE ROLE OF THE LOCAL AUTHORITY

The initial role of South Tipperary County Council was to take the lead in having the plan drafted, and to support this and implementation of its actions through the post of a designated natural heritage officer. In the case of South Tipperary County Council, this role is currently filled by the Heritage Officer. The Heritage Officer supports the local authority in meeting its obligations under national biodiversity policy by supporting and facilitating the local Biodiversity Forum, and by supporting and promoting local biodiversity projects, training and awareness in the community and in the local authority.

The different sections of the local authority are already including biodiversity actions in their day-to-day running; with the help of this plan, this integration can be increased.



Apple blossom

THE ROLE OF THE BIODIVERSITY FORUM

The South Tipperary Biodiversity Forum is an offshoot of the county Heritage Forum. The key role of the Biodiversity Forum is to support and contribute to the making and implementation of the local Biodiversity Action Plan. The Forum meets approximately four times per year. It is currently made up of the individuals and organisations listed opposite; however it is open to other interested parties who wish to contribute to increasing the knowledge and awareness of biodiversity in the county.

HOW THIS PLAN WAS MADE

In July 2009, ecological consultant Mieke Muyliaert was appointed to facilitate the production of the plan. Mieke met with the Biodiversity Forum to agree the approach to the plan. This included articles in the local newspaper and on local radio highlighting local biodiversity and inviting public input, and a biodiversity questionnaire which was distributed to interested parties and made available online at the South Tipperary Heritage website www.southtipperheritage.ie. Consultations were carried out with a wide range of bodies and individuals, including different sections within the county council and the town councils.

This information was collated and a first draft plan prepared for the Biodiversity Forum to review. Subsequently the final draft was prepared in November 2009.

It was agreed that the logo for the plan, and for biodiversity projects in the county, would be the bee. A schools competition was run by South Tipperary County Council in November 2009 to find a design for the logo.



Painted Lady Butterfly

OBJECTIVES OF THE PLAN



To raise awareness and create a greater appreciation of the natural heritage of South Tipperary



To continue to raise awareness of and implement positive action for biodiversity within South Tipperary local authorities



To promote and support best practice in looking after nature throughout the county



To collect and make available information on the biodiversity of South Tipperary



FARMLAND

South Tipperary is famous for the Golden Vale – the fertile lowlands on deep soils that allow us to produce beef, dairy and grain and to breed racehorses. The farmland is linked up with a network of hedgerows, some of which are very old – for example on townland boundaries. Hedges contain native trees and shrubs, and provide a home for animals and birds. Areas that are less intensively farmed are also good for wildlife, such as rushy fields and old hay meadows. Farmland often contains some of the other habitats described in this plan, such as heath, woodland and wetlands.

Farmland provides us with our food, and so it relies on healthy soil, clean water, and pollinators for some crops, like bees for rapeseed. Farming has changed dramatically in the past 60 years or so, since the invention of artificial fertiliser and herbicides and Ireland's accession to the EU which promoted intensification through the Common Agricultural Policy.

Even with modern technology, farming ultimately relies on a healthy environment. More than anyone, farmers appreciate that nature is boss – weather patterns can cause crops to succeed or fail; relying on one variety can leave a crop susceptible to disease; loss of natural habitat areas is noticed when there is less wildlife to be seen.

This interdependence is increasingly recognised in the sustainable approaches that are being taken to farming – like planting clover to reduce nitrogen fertiliser; farm forestry as a carbon sink; farming organically; and leaving headlands and verges as habitat for insects and birds.



Hedge trimming

Organically-farmed cattle in the Knockmealdowns



HOW FARMERS LOOK AFTER NATURE

- Maintaining and planting hedges using native species
- Keeping habitats such as woodlands, wetlands, old grassland and scrub
- Researching old crop varieties that need less inputs
- Separating dirty yard water to make sure it doesn't pollute groundwater or streams
- Reducing stock numbers and fertiliser inputs, e.g. through schemes such as REPS
- Using hardy breeds of cattle and sheep that don't need high-input pasture
- Fencing off riverside habitat to reduce pollution risk from fertiliser and slurry
- Replanting orchards with old native varieties suited to Irish conditions
- Cutting back hedgerows outside the nesting season

www.agriculture.gov.ie

www.teagasc.ie

www.hedgelaying.ie

www.irishseedsavers.ie

www.heritagecouncil.ie/wildlife/publications/





WOODLAND

Because of the suitability of most of the land for farming, most woodland in the county is confined to the uplands, wet ground, or steep slopes. Most woodland in South Tipperary is Coillte forestry planted with non-native conifers, but some of it is native broadleaf woodland. Coillte has set aside 15% of these areas for biodiversity. There are pockets of woodland on private land and along rivers. Some woodlands are protected due to their value for nature, such as at Cahir, where Coillte are restoring yew woodland in an EU-funded LIFE project; Grove Wood near Fethard that contains old oak woodland, or the wet willow woodlands along the Suir.

Ireland was once almost completely covered in woodland, which was gradually cleared for farming and settlement. Much of our native flora and fauna is adapted to live in woodland, and today also survive in hedges, which are like mini linear woodlands and ecological 'corridors' linking up bigger wooded areas.

The amount of woodland in the country is increasing again – it was probably at its lowest following the famine, when the large population had to cut down trees and scrub for fuel and to make room to grow food.

The main trees found in native woodlands in South Tipperary are oak, mountain ash, birch and holly on acid soils; ash, hazel, spindle and oak on limestone soils; and alder, willow and ash on wet soils.

As well as being a store of CO₂ and a source of renewable fuel, woodlands are home to birds, bats, insects, mosses, ferns, fungi, liverworts and wild flowers. Woodland loop walks have been developed on Coillte lands with local communities at locations around the county including Glenbawn (Clonmel) and Grange (Glengoole).

Some of our woodlands are threatened by invasive species such as rhododendron and cherry laurel. A fungus called 'sudden oak death' related to potato blight has been spreading in Europe and has been found on rhododendron in Ireland. It is not yet known whether this could spread to our native trees.



HOW CAN WE LOOK AFTER OUR WOODED HABITATS?

- Try to keep old hedges
- Plant new hedges with native species grown from native seed or cuttings
- Don't dump rubbish in woodlands
- Take firewood from your woodland by coppicing selected trees in turn, instead of cutting everything down; then allow the coppice to re-grow
- Allow scrub and bramble to grow in the wood – it provides cover for birds and animals
- Don't cut back ivy – it does not kill trees, but is a natural part of our native habitats and is a habitat for roosting bats and birds
- Trails developed in woodland should stick to existing paths as much as possible; lightly trim back vegetation rather than cutting down trees and shrubs
- Cut invasive non-native species for firewood first, e.g. laurel and rhododendron
- Preferably remove non-native trees first e.g. sycamore, beech, and replace with native ones e.g. ash, oak

www.coillteoutdoors.ie

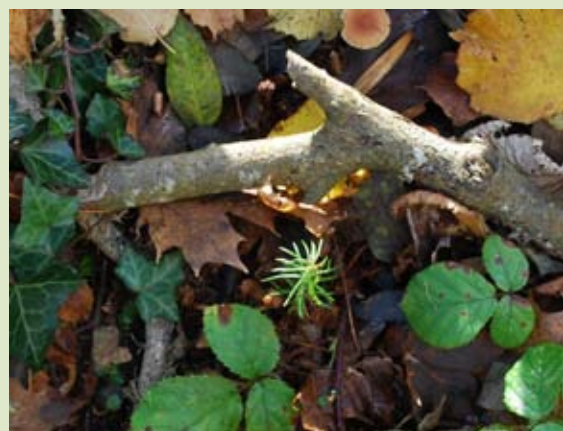
www.coford.ie

www.agriculture.gov.ie/forests-service

www.woodlandleague.org

www.crann.ie

www.trecouncil.ie



Yew seedling in Cabir Park Woodland

*. . . woodlands are home
to birds, bats, insects,
mosses, ferns, fungi,
liverworts and wild flowers.*



New forest signage

RIVERS, STREAMS AND WETLANDS

One of the most symbolic features of nature in South Tipperary is the River Suir. Together with its tributaries, this river forms an ecological highway reaching into almost every corner of the county. If you are beside a drain, a stream or a river, the chances are that it is part of the Suir. The river and its tributaries are protected as a Special Area of Conservation, as it is important for salmon, otter, lampreys, freshwater pearl mussel and white-clawed crayfish, as well as water plants, flood plain, and riverside habitats. However every drain, stream or spring is important, as they all contribute to the river system.

Rivers provide us with most of our water supply for homes and businesses. As well as being necessary for diverse healthy ecosystems, good quality water also benefits public health; in South Tipperary approximately 20% of public water is obtained from groundwater sources and 80% is abstracted from surface waters (rivers and lakes). They are an important tourist attraction in the county and a resource for boating, fishing and walking routes. Natural riverbank vegetation helps absorb floods.

Rivers have to absorb a lot of material that we don't want – waste water from sewage plants and septic tanks, run-off from built-up areas and farmland, heated water from industry, and sometimes our rubbish. This all puts a strain on the biodiversity of rivers and makes them less safe for us and the rest of nature. We need to use our rivers wisely if we want to have clean water for the future.

Apart from the rivers there are few areas of open water in the county, and no large lakes. Underneath the lowlands we find karst limestone. Similar to the Burren, but underground, these rock formations have cracks, channels and caves, such as Mitchelstown caves. In some places the openings in the rock are near the soil surface, and there we find swallow-holes – otherwise known as 'slug-gara' or 'gluggers'. We also have a few turloughs, or 'disappearing' lakes, in South Tipperary. These are only found in a few places in Europe, including Ireland.

Small ponds, springs and swamps are scattered throughout the county. Wetlands like these are often connected by groundwater, for example by aquifers. These underground water-bodies are often tapped into to provide water supplies. Because they fill up slowly, water can be pumped out of them faster than it can seep back in. In time that means that not only could boreholes dry up, but springs, ponds and swamps could start to disappear.

River Basin Management Plans have been drafted for all the river systems in Ireland. The aim of the plans is to make sure that all aspects of our water resources are managed together. The Suir is in the South Eastern River Basin District.



Spring-fed stream at Orchardstown



Tobar Íosa, holy well, Cabir

Fens and bogs are also wetlands, because their ecosystems rely on water. We often refer to any wet or swampy area as 'bog' – however a true bog is a wetland that is making peat. We have three types of bog, or peatland, in the county: fen, raised bog, and blanket bog.

Raised bogs start life as a fen. A fen forms in low-lying areas in a lake or pond, often one that is fed by a spring or groundwater. The limestone lakes where the great bogs of Ireland formed were home to millions of tiny snails – their shells are the white marl that we find when we cut down to the bottom layer of a bog. Plants grow and die in the lake, and because they lie under the water, there is not enough oxygen for them to rot completely.

Over a long period of time, this plant material builds up as fen peat. Eventually the peat builds up until the plants are growing on top of it, above the water table. Now these plants can only get moisture from the air – usually as rain. As rain is naturally slightly acidic, the typical raised bog plants begin to appear – Sphagnum moss, bog cotton, and heather. These plants form a 'skin' over the bog, helping to hold in water, and giving the bog its raised dome shape. Blanket bog forms slightly differently, on shallow slopes in the mountains where the high level of rainfall makes suitable conditions for peat formation.

The peat that we cut from our bogs has built up over thousands of years; in a matter of a few hundred years, we have cut away most of our peatlands. It is now recognised that peatlands are an important store of carbon, as well as being full of a diversity of special species.

The Irish Peatland Conservation Council works with communities to help save and restore bogs. Bord na Móna has about 2000 hectares of bog at Littleton which is in peat production. In general it is envisaged that once peat production comes to an end, these areas will go back to nature due to natural re-colonisation. Bord na Móna is actively engaged in restoring cutover bog and pursuing more sustainable renewable energies to replace peat.

Lough Doire Bhile, near Glengoole, is a project using a cutaway bog area as a place for nature and people. A wide range of bog flora and fauna can be seen along the community-developed loop walk. There is also the potential for cut-over bogs to be restored along the lines of the Lough Boora project in Co. Offaly. Slievenamon Bog is protected as a Natural Heritage Area because of the upland blanket bog habitat found on the mountain. Fires, grazing and erosion are issues for this fragile ecosystem.

HOW CAN WE LOOK AFTER OUR RIVERS AND WETLANDS?

- Only use the amount of water that you need
- Get your septic tank cleaned
- Leave vegetation growing on the river bank
- Don't allow cement to run into gullies, drains or streams
- Use fertiliser, weedkiller and chemicals responsibly: don't use them where they can leach into water
- Collect rainwater for watering plants and washing the car
- Buy peat-free compost
- Compost your kitchen waste – see www.ipcc.ie or contact South Tipperary County Council Environment Section for advice
- Building developments should use SuDS – Sustainable Drainage Systems – for dealing with storm and waste water



Kettle-hole fen

www.wfdireland.ie

www.srfb.ie

www.epa.ie

www.southtipperheritage.ie

THE MOUNTAINS OF SOUTH TIPPERARY

The lowlands of the county are encircled with the uplands of the Hollyford Hills, Slievenamuck and the Galtees, the Knockmeal-downs, Slievenamon and the Lingaun valley, and the Slieveardagh Hills. In contrast to the limestone lowlands, the uplands are made up of sandstone and shale. These mainly acid rock types, as well as the higher rainfall generally experienced in the uplands, means that the soils found here are nutrient-poor and not as suited to intensive farming, with the exception of parts of the Hollyford Hills and much of the Slieveardagh Hills.

Traditionally the uplands have been used for low-intensity grazing and some peat harvesting, with coal-mining and slate-quarrying in the east of the county. In more recent times, more intensive sheep grazing came and went with the ewe premium, while coniferous forestry has expanded. The past history of low levels of human use has resulted in special biodiversity features in the uplands.

As well as extensive heathland, we also find blanket bog, corrie lakes, species-rich acid grassland, mountain cliffs, streams and woodlands. Some of these habitats and species are special in Ireland and in Europe, and have been protected under Irish and EU law; the Galtees are a Special Area of Conservation for their bog, heath and rare plants - the cliffs and scree in the vicinity of the corries and lakes support numerous alpine species, including



Round-leaved sundew

*Winter morning, Galtee Mountains,
taken from the Cashel by-pass*



Green Spleenwort, Roseroot, Mountain Sorrel, Cowberry, Alpine Saw-wort and the rare Northern Rock-cress. The Hollyford Hills are a Special Protection Area as they contain Hen Harrier, and Slievenamon is a designated Natural Heritage Area for its bogs. Though the Knockmealdowns are not protected, Coillte owns an extensive area of land here which is mostly heath and are managing it for biodiversity.

Heath is found mainly in the mountains, and also in rocky places where the soil is thin. The main plants in heath are ling heather, bell heather, low-growing furze, and bilberry. It is different from bog, in that it does not form peat (though it is sometimes found on peat soils). Much of our heathland would once have been native woodland – when the woods were cleared, the heather took over. It is now an important habitat in its own right. Small patches of heath are found at the slate quarries along the Lingaun River on the Kilkenny border.

After farming and forestry, recreation, particularly walking, is one of the significant uses of the hills and mountains. The Galtees, Knockmealdowns and Slievenamon in particular are used for walking. Failte Ireland research has shown that many visitors come to Ireland to take part in outdoor recreation, especially walking. Though our mountains are not high by European standards, the perception of Ireland as a unique destination draws people here. However this natural resource must be used sustainably, and the degradation of our uplands through dumping, pollution, burning, and erosion from inappropriate use of off-road vehicles devalues the experience for visitors, Irish and foreign, alike. The uplands are an important and fragile asset that must be managed with care.

Fly-tipping of rubbish has become a problem in the uplands, as well as in forestry, bogs and other quiet areas in the countryside. As well as looking terrible, rubbish, household waste and old cars cause pollution (perhaps to the very streams that our drinking water comes from!) and are a hazard to wildlife. South Tipperary County Council Environment Section provides information on how to dispose of waste responsibly. To report illegal dumping, contact the Environment Section of South Tipperary County Council in writing or on 1800 20 26 27.

www.pathsavers.org

www.irishuplandsforum.org

www.southtippcoco.ie/en/environment



Walking the Tipperary Heritage Way

*The past history of
low levels of human use
has resulted in special
biodiversity features in
the uplands.*



Dumped cars collected by Coillte

TOWNS AND VILLAGES

Going by area, South Tipperary is a rural county; however a large proportion of the population lives in the urban areas of our towns and villages. Many urban areas have a river flowing through them, and indeed many of our towns and villages lie within the catchment of the Suir. This brings nature right into the urban areas. In addition, gardens, parks and open space are all of great value in providing a home for nature in built-up areas.

As well as the rivers, we find nature on our doorstep in other places – graveyards and churchyards often contain an interesting

mix of wild flowers and grasses. This can be seen in the grassland of the famine graveyard at Tipperary Hills, right beside Tipperary town, and indeed the Hills themselves are particularly rich in wild flowers. Limestone outcrops such as at the Rock of Cashel, and the roadside verges and banks leading into our towns and villages are often host to a range of native species, such as orchids on the Fethard road at Clonmel. Council staff and community groups in all parts of the county are encouraging biodiversity by planting native trees, composting green waste, working with schools to create wildlife gardens, and encouraging community gardens and

allotments, such as Aimsir Bia in Cashel and Clonmel Allotments & Community Gardens.

So the next time you are about to complain about 'untidy' long grass, stop and look at the different flowers and grasses, and see how many you can count!

Wildlife and nature is now a part of Tidy Towns adjudication, and groups across the county are leaving room for nature in their towns and villages and embracing nature-friendly management. Emly has no less than three public gardens, including a wildlife garden. It is important to remember that nature doesn't need to be 'tidy' – what looks tidy or clean to us can be worse for nature, especially along river banks.

Local environmental improvements are carried out under many different schemes in South Tipperary. As well as Tidy Towns, there are Tidy Schools, school gardens, Green Schools, Golden Mile, and local burial ground committees, to name but some. The National Spring Clean and Green Communities grant are administered by An Taisce, with support from the county council while the county council promotes the uptake of Local Agenda 21 and amenity grant schemes. The work of local groups is recognised annually through the County Environmental Awards.

A good resource for groups looking to enhance their locality in a biodiversity-friendly way is the Heritage Council's guide *Conserving and Enhancing Wildlife in Towns and Villages*



Companion planting



Wall plants

ALLOTMENTS & COMMUNITY GARDENS

Interest in growing food has taken off in recent years. Starting with Aimsir Bia in Cashel, Knockanrawley in Tipperary Town, and Clonmel Allotments & Community Gardens Association, allotments and community gardens are being set up in many towns and villages. Support for home-growers has developed through the spread of the 'Grow It Yourself' network.

There are two main ways that growing your own food can help biodiversity. Firstly, by growing locally, the carbon footprint or 'food miles', and possibility of damage to ecosystems in other places, is reduced. Secondly, if ecologically-friendly gardening methods are used, the food plot can help support and increase local biodiversity (even if some of them are pests, they are all part of the web of life!)

HOW CAN WE HELP NATURE IN OUR TOWNS AND VILLAGES?

- Put up nestboxes
- Avoid using weed- and moss-killer on lawns and paths
- Plant shrubs and flowers that attract butterflies, bees and hoverflies
- Plant native trees and shrubs
- Avoid using slug pellets
- Use traditional lime mortar on old walls, instead of cement
- Leave smaller wild plants and ferns to grow on old walls
- Leave some grass to grow long each year for native wild flowers and insects
- Use companion-planting instead of sprays to control garden pests

www.facebook.com/people/Aimsir-Bia/1589035024

<http://www.knockanrawley.ie/TheOrganicGarden/tabid/5088/>

<http://clonmelallotments.wordpress.com>

www.southtippcoco.ie/en/environment

www.irishseedsavers.ie

www.celtnet.org

www.southtippheritage.ie

www.heritagecouncil.ie/wildlife/publications

www.nationalspringclean.org

www.greenschoolsireland.org

www.ipcc.ie/compwildintro.html



Clonmel allotments



Aimsir Bia Community Garden, Cashel



Aimsir Bia Community Garden, Cashel



Aimsir Bia Community Garden, Cashel



Yellowhammer



Peregrine falcon



Robin

HOW CAN WE HELP BIRDS?

- Put up nestboxes
- Feed garden birds in winter
- Avoid hedge-cutting and heather burning during the breeding season
- Use conservation headlands around cereal crop fields
- Minimise use of herbicides and rodenticides

Text on this page by Kevin Collins, BirdWatch Ireland

BIRDS OF SOUTH TIPPERARY

A total of 74 species of wild bird regularly breed in South Tipperary. A further 8 species are very scarce breeders, including the Little Ringed Plover, which bred in South Tipperary in 2008, a first breeding record for Ireland. The Little Egret and the Buzzard are species whose range is increasing and breeding in South Tipperary is imminent. The Peregrine Falcon, which declined in the 1960s is increasing in numbers and with all available inland cliffs and suitable quarries occupied, they are now nesting on ruined castles and churches.

Most of the species which have declined in South Tipperary in the past fifty years have been farmland birds such as Corncrake, Grey Partridge, Lapwing, Curlew, Yellowhammer and Barn Owl. These declines can be attributed to agricultural intensification and changes in farming practices such as the switch from hay to silage and the switch to winter cereals.

It is doubtful if Ring Ouzels still breed in the mountains of South Tipperary but the uplands still hold important species such as Red Grouse, Hen Harrier and Nightjar.

In terms of species of conservation concern breeding in the county, the Red Grouse, Lapwing, Black-headed Gull, Barn Owl, Nightjar and Yellowhammer are on the red list.

The following species which are regular breeders are on the amber list; Little Grebe, Mute Swan, Tufted duck, Hen Harrier, Kestrel, Water Rail, Coot, Snipe, Woodcock, Stock Dove, Swift, Kingfisher, Skylark, Sand Martin, Swallow, House Martin, Wheatear, Grasshopper Warbler, Spotted Flycatcher, Starling, House Sparrow and Linnet.

A total of 82 species regularly winter in South Tipperary, with a further 24 species which occur occasionally. Of the wintering birds, only the Shoveler and Pintail are on the red list. The following species are on the amber list; Whooper Swan, Wigeon, Gadwall, Teal and Pochard.

Nationally important numbers of Golden Plover have been recorded along the River Suir between the bridges at Ballycamusk and Camus, while numbers of Whooper Swan approach national importance further downstream near Newcastle. Shoveler regularly occur in nationally important numbers at Marlfield Lake.

There are many gravel pits in South Tipperary and these are important for birds such as Lapwing and Sand Martin. As they come to the end of commercial extraction, they could be restored to wetlands for wildlife.

A total of 82 species regularly winter in South Tipperary . . .

www.birdwatchireland.ie

SOUTH TIPP – A STRONGHOLD FOR BARN OWLS



The Irish Barn Owl population has experienced a dramatic decline in recent times. They are categorised as one of 25 Red-listed Birds of Conservation Concern in Ireland due to the fact that their breeding population is considered to have suffered losses of over 50% in the past 25 years. Recent survey work carried out by The Barn Owl Research Project (a joint BirdWatch Ireland and University College Cork project) indicates that there have been further worrying declines in the last ten years.

Survey work has also revealed that Barn Owl distribution and abundance varies considerably across the country. They have almost disappeared from some counties; however the population is faring reasonably well in certain areas.

South Tipperary is now known to be one of the main strongholds of the Barn Owl in the country. Survey work in conjunction with appeals for sightings and records conducted through BirdWatch Ireland has confirmed that this area holds one of the highest densities in the country. As such South Tipperary is of national importance in terms of conservation of the endangered Barn Owl population.

In 2008 and 2009 The Barn Owl Research Project focused efforts on determining the reasons behind the apparent suitability of this area for Barn Owls and assessing the future outlook of the species in the region. In March 2008 the project made the significant discovery that Barn Owls in South Tipperary were feeding on a previously un-recorded small mammal species to Ireland, the Greater White-toothed Shrew. This was the first new small mammal to be recorded in Ireland for over 40 years. Since its arrival the Greater White-toothed Shrew has since become well established and is now known to occur in Tipperary and east Limerick. Although the potential impacts of this introduction on the local ecosystem is not yet fully known, it seems that they are having a positive influence on the local Barn Owl population.

Over 2008-2009 the research project has shown that in south Tipperary, Barn Owls have bred significantly earlier than anywhere else in the country. In 2009, pairs in this area were also more productive, fledging more chicks on average than other nests. Pellet analysis has shown that the Greater White-toothed Shrew now makes up over 70% of the Barn

Owl's diet in this region. Further research to fully understand the impacts of the shrew on the local Barn Owl population and their ecology is on-going.

Although the Barn Owl situation in the local context of South Tipperary currently appears to be healthy, the future status of the population across the country is uncertain. Efforts to maximise the benefits in South Tipperary would have a positive impact nationally. Nest boxes can be installed to provide additional nesting opportunities in suitable habitat. Reporting potential Barn Owl sites or sightings would also assist in locating nest sites. Once a nest site is registered it can be afforded protection from disturbance or development during the critical breeding season. It must also be noted that a high number of Barn Owl mortalities were recorded on roads in South Tipperary during 2009, reporting such incidents would also be of benefit in identifying potential black spots.

The Barn Owl Research Project is a joint Bird-Watch Ireland, University College Cork project which is funded by the National Parks and Wildlife Service and the Department of Agriculture & Food. www.birdwatchireland.ie/Ourwork/SurveysProjects/BarnOwls/tabid/117/Default.aspx Text: John Lusby, Barn Owl Research Project.



Hedgehog



Pine marten



Brown long-eared bat



Brown long-eared bat roost



Leisler's bat



Daubenton's bat



Soprano pipistrelle

MAMMALS

As well as birds, the habitats throughout the county are home to a variety of wild mammals, from the tiny pygmy shrew to the otter. We don't see these animals too often because they have learned to keep away from humans, but in recent years research has been carried out on some species, to find out how well they are surviving. This is because many of our native wild mammals are protected under Irish and EU law, in many cases because their populations as a whole in Europe are in decline.

For example, the 2005 Otter Survey of Ireland found that less otters were recorded, by about 17%, than in a survey in the early 1980s. The 2005 survey found a fairly high proportion of otters in the South East River Basin District (about 73% of sites surveyed), with 12 positive sites on the Suir catchment. Overall Ireland has a good otter population compared to mainland Europe, so it is important to look after it.

The pine marten, once persecuted at the start of the 20th century, has started to spread once again since becoming protected. This small, stoat-like animal is very shy and is more often seen as road-kill than alive. This is also the case with badgers, who go on their foraging missions at night.

The Irish hare is a sub-species of the mountain hare. Over the thousands of years since the end of the last ice-age, our native hare has lost the ability to grow a white coat in winter. This is because we have so little snow – a white-coated hare is more obvious and more easily caught by predators (which would once have included wolves) – so eventually natural selection favoured the brown-coated hares, which evolved into our own Irish sub-species.

Nine species of bat are found in South Tipperary, including the recently-discovered Brandt's bat. In Ireland we only have insect-eating bats. All bats are strictly protected because their populations have declined throughout Europe, due to factors including habitat loss and use of pesticides.

Other native mammals include hedgehog, fallow deer, stoat, rabbit, fox, and wood mouse. Most of our mammals are protected under Irish and EU law.

All our wild mammals rely on healthy ecosystems to survive (except for the brown rat, who will live quite happily on our rubbish, and the house mouse who will live with us, given the chance!). Otters need clean rivers; badger, hare, pine-marten, bats and squirrel need hedgerows, scrub, natural grassland and woodlands.

Nine species of bat are found in South Tipperary, including the recently-discovered Brandt's bat.



AND IN THE RED CORNER...

The 2007 Irish Squirrel Survey (http://www.coford.ie/iopen24/squirrels-survey-t-532_196_265_399.html) found that the native red squirrel is still doing quite well in South Tipperary, being found throughout the county. The non-native grey squirrel has been spreading across Ireland from its original release site at Castleforbes, Longford, in the early 1900s. Grey squirrels are a problem because they displace the red by competing with it for food sources; they also strip the bark from young broadleaved trees, and high densities of greys are implicated in the loss of wild bird populations, because they rob nests. Over the whole country, the spread of the grey overlaps with the loss of the red. Tipperary is part of the south-west frontier, with a few greys recorded along the Limerick border, and none in Cork. Various options for controlling the grey squirrel are being explored. Gun clubs are already doing their bit to control this pest species.

*... the native red squirrel
is still doing quite well in
South Tipperary ...*

www.iwt.ie
www.batconservationireland.org
www.npws.ie/en/Biodiversity/IrishSpecies/Mammals

*Frogs live on
invertebrates
(including midges!),
which they catch with
their long tongue.*

AMPHIBIANS & REPTILE

Ireland has only three native amphibians. The frog and common newt are found in South Tipperary, but we have no populations of the rare natterjack toad in the county. Frogs are protected under EU law because they have been declining throughout Europe. They may also be declining in Ireland. Newts are less common – they have a long tail and look a bit like a lizard, but with smooth skin like a frog. They live in ponds. Lizards are our only native reptile, and live in dry habitats, such as drystone walls, rocky places and the dry heather of bogs and heaths. Frogs live on invertebrates (including midges!), which they catch with their long tongue. Frogs are protected under the Wildlife Acts (1976 & 2000) and a licence is required to collect frogs from the wild. A blanket licence is issued each year by the National Parks & Wildlife Service to allow schools to collect frog spawn for educational purposes. This licence requires that the spawn /subsequent tadpoles be returned in due course to the point of collection.

www.npws.ie/en/Biodiversity/Ireland/Amphibians

www.npws.ie/en/Biodiversity/Ireland/Reptiles

www.ipcc.ie/hoptoitintro.html

Common frog





Atlantic salmon

FISH

South Tipperary is renowned for its fishing, particularly for salmon and brown trout along the Suir and its tributaries. These 'game fish' need clean water to survive and thrive. Also present in the Suir catchment are lampreys – river, brook and sea lamprey. The rare twaite shad spawns in the river at Carrick-on-Suir. All of these species (except trout) are protected under the EU Habitats Directive, and are part of the reason that the River Suir, among other rivers, is designated as a Special Area of Conservation.

Many people are aware that salmon numbers have declined in recent years; this may have a number of causes. It seems that rising ocean temperatures in the North Atlantic are affecting the main feeding ground that the fish go to when they leave our rivers every year. For this reason, fishing for salmon is now restricted and operates on the Suir on a catch-and-release basis only.

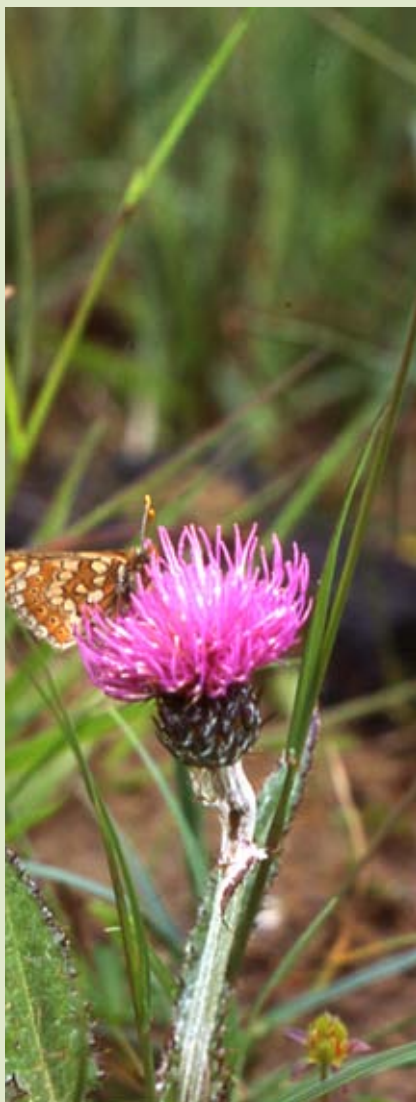
It is less well known that eels have also declined, for this reason, fishing for eels is banned until 2012, when the status of this species will be reviewed. Eel, like salmon, spend part of their life-cycle at sea.

Coarse fishing is also very popular in the county, with many small ponds and lakes that have populations of such fish as perch, rudd, bream, and pike as well as the childrens' fishing quarry of yore the common stickleback or redbelly. This is another example of how important that small pond in the corner of the field or the little babbling brook may be to a myriad of fauna and flora in the immediate area and a vital link to "the web of life" in your area.

*. . . game fish need clean
water to survive and
thrive.*

www.srfb.ie

www.nasco.int/sas/salseamerge.htm



Marsh Fritillary

*Twenty four species
of butterfly . . .
regularly breed in
South Tipperary.*

INVERTEBRATES

'Invertebrate' means 'without a backbone'. This includes snails, crustaceans such as freshwater crayfish, freshwater pearl mussel, butterflies, dragonflies and moths. In South Tipperary we also have the extremely rare wood ant.

BUTTERFLIES IN SOUTH TIPPERARY

Twenty four species of butterfly (out of 33 species in Ireland) regularly breed in South Tipperary. Most of these are common and widespread, such as the Small Tortoiseshell, Green-veined White and Speckled Wood. The Clouded Yellow breeds only in years when good numbers of migrants arrive from continental Europe. Other species are restricted to scarce habitat types or by the distribution of their larval food plants. The Purple Hairstreak is confined to mature oak woodland such as Grove Wood near Fethard. The Grayling is confined to heathland with bare ground and some gravel pits near Cahir. The Small Blue was recorded in the past near Bansha, but its larval food plant, Kidney Vetch, is scarce in South Tipperary. Brimstone is seen occasionally in South Tipperary but its larval food plant, Buckthorn, is scarce in the south of the county, but is more common in the north of Tipperary. The populations of species such as Orange Tip and Holly Blue appear to be increasing, whereas, the Large Heath is in decline.

THE MARSH FRITILLARY

The Marsh Fritillary, which is listed on Annex II of the Habitats Directive, is confined to areas where devil's-bit scabious grows, such as Derrynaflan and Derryvella. This butterfly has declined drastically throughout Europe due to loss of peatland and old grassland habitat, where the devil's-bit scabious flower grows. The butterfly larvae (caterpillars) rely on this plant for food, but unfortunately the adult butterflies are not good at flying from one patch of suitable habitat to another. This is particularly difficult where the habitat is fragmented by urban habitats, forestry and intensive farmland. We need to keep and restore some of our old grasslands and peatlands, to ensure that this butterfly species doesn't go extinct in South Tipperary, or in Ireland.

<http://irishbutterflymonitoringscheme.biodiversityireland.ie>

www.npws.ie/en/Biodiversity/Ireland/Invertebrates





PLANTS

Hundreds of species of plants have been recorded from South Tipperary. Notable species recorded from the county include opposite-leaved pondweed, basil thyme, small-white orchid, annual knawel, betony and Killarney fern. Some of the records for these plants are quite old and some of these species may be extinct in the county. The arctic-alpine species found on the Galtees – green spleenwort, roseroot, mountain sorrel, cowberry, alpine saw-wort and the rare northern rock-cress – are relicts from the time thousands of years ago, after the last ice-age, when Ireland was covered in tundra vegetation.

As well as these rarer species, we have many many beautiful plants that are easily seen in our gardens, roadside verges, parks and woodlands.

Notable species recorded from the county include opposite-leaved pondweed, basil thyme, small-white orchid, annual knawel, betony and Killarney fern.

www.npws.ie/en/Biodiversity/Ireland/HigherPlants

www.bsbi.org.uk



Bogbean



Marsh cinquefoil



Blackthorn sloes

The most recent research suggests that Ireland will get warmer, but also wetter, with more frequent and extreme rainfall.

CLIMATE CHANGE AND BIODIVERSITY

We hear more and more about climate change and the effects it may have on our weather patterns. The most recent research suggests that Ireland will get warmer, but also wetter, with more frequent and extreme rainfall. There may be periods of drought, possibly in late summer. What does this mean for biodiversity? Some species may spread – is the increasing population of little egret an early sign of this change? Others may find conditions becoming less suitable and could disappear. Salmon and trout are particularly at risk of increasing water temperatures, as they will not tolerate a warmer average temperature in our rivers and the seas around Ireland, and may migrate northwards. The interactions between species may also change, in ways that we don't yet understand. We can help by trying to leave some space for a variety of habitats, flora and fauna; by allowing for flooding and drought when planning our urban and rural communities; and by taking action to reduce our carbon footprint and so helping reduce the effects of climate change.

See 'Climate Change, Heritage and Tourism: Implications for Ireland's Coast and Inland Waterways', at www.heritagecouncil.ie/inland-waterways/.



ALIEN ALERT!

Invasive non-native plant and animal species are the second greatest threat to biodiversity worldwide after habitat destruction. They can have a negative effect on native species, habitats and ecosystems, and sometimes on our economy.

As well as the grey squirrel, other introduced species found in South Tipperary include mink, greater white-toothed shrew and bank vole. In the past year or so, it seems that two other species have been introduced – wild boar, and muntjac deer. This small deer, which has a call like a barking fox, is very elusive and its rate of spread through Ireland is not properly understood. It damages woodlands.

The 'most unwanted' alien plants include Japanese knotweed, Himalayan balsam and giant hogweed. These can be found in a variety of habitats, often in damp or wet places beside rivers and streams. They have two main effects on native biodiversity. Firstly, they grow in thick clumps which don't allow other plants to grow under them. This reduces the range of native plants, insects and birds that can be found in that area. Secondly, they die back in winter, and this often leads to erosion of river banks as there is no natural vegetation to hold the soil together. Giant hogweed is worse again, as its sap contains a chemical that reacts with sunlight in contact with human skin, and can cause serious burns.

More information on invasive species, including pictures and a form for submitting sightings, is available at www.invasivespeciesireland.com.

Invasive species can have a negative effect on native species, habitats and ecosystems, and sometimes on our economy.



Japanese knotweed



Himalayan balsam



Giant Hogweed

PROTECTION OF HABITATS, SPECIES AND ECOSYSTEMS

NATURE CONSERVATION LEGISLATION

Human activities are constantly affecting nature. Throughout Ireland and Europe, this has resulted in significant loss of habitats and species; indeed it is said that we are now experiencing the sixth mass extinction of species, caused by unsustainable human use of natural resources. Efforts to relieve the pressure on nature take many forms, including raising awareness, promoting sustainable use of natural resources, and legislation to protect the most vulnerable habitats and species.

The main pieces of legislation relating to biodiversity in Ireland are:

- Wildlife Act 1976 and its amendment of 2000
- EU Habitats Directive, which was transposed into Irish law as the European Union (Natural Habitats) Regulations, SI 94/1997
- EU Birds Directive, which was transposed into Irish law as the European Communities (Conservation of Wild Birds) Regulations, SI 291/1985
- Flora (Protection) Order 1999, S.I. 94/1999
- Fisheries (Consolidation) Act 1959, and amendments
- EU Water Framework Directive, which was transposed into Irish law as the European Communities (Water Policy) Regulations, S.I. 722/2003
- EU Strategic Environmental Assessment Directive, which was transposed into Irish law as the European Communities (Environmental assessment of certain plans and programmes) Regulations, SI 435/2004 and the Planning and Development (Strategic Environmental Assessment) Regulations, SI 436/2004
- Planning and Development Acts 2000-2006
- Forestry Act, 1946

Remember, all of nature is important, not just areas and species that are under special protection.

CLEARING AND BURNING OF VEGETATION

Under the Wildlife Acts (1976 & 2000) it is illegal to cut, grub or burn vegetation from March 1st to 31st August on uncultivated land or in hedgerows. This means that cutting hedgerows, grubbing out scrub, and burning heather and other upland vegetation, is not allowed during those times, except in certain specified circumstances. This is to protect nesting birds and other wildlife.

It is also an offence under the Waste Management (Prohibition of Waste Disposal by Burning) Regulations 2009 (S.I. No. 286/2009) to burn green waste such as brush, scrub or prunings in the garden or on the farm; however an exemption may be granted for burning agricultural green waste after filling in a statutory declaration form.

PROTECTED NATURE CONSERVATION AREAS

SPECIAL AREAS OF CONSERVATION – SACs are the prime conservation areas in Ireland, and are designated under the EU Habitats Directive, as they contain species and/or habitats that are considered in need of protection on a European level. There are eight SACs in South Tipperary.



Natural meadow

SPECIAL PROTECTION AREAS – the EU Birds Directive requires the designation of SPAs for certain bird species, including those that are rare and vulnerable, those that occur regularly as migrants, and to cover wetlands which attract large numbers of migratory birds. There is one SPA in South Tipperary, covering the Hollyford Hills.

NATURAL HERITAGE AREAS – this is the basic national designation for wildlife in Ireland. Statutory designation of NHAs was enabled by the Wildlife (Amendment) Act 2000. There is one statutorily designated NHA in South Tipperary, Slievenamon Bog. There are thirty six proposed NHAs which will be designated on a phased basis over the coming years.

PROTECTED SPECIES

A list of protected species known to occur in the county can be found at www.npws.ie. Certain species in Ireland are protected under the Flora (Protection) Order, which protects a list of named plant species which are very rare in Ireland.

MORE INFORMATION

Detailed information on protected habitats and species is available on the website of the National Parks & Wildlife Service www.npws.ie. On this website there are numerous publications relating to Irish flora, fauna and habitats. The location and boundaries of SACs, NHAs and SPAs can be viewed online on their map and data viewer at www.npws.ie/en/MapsData/.

Note: Irish nature conservation legislation is due to be updated in 2010. The website of the National Parks & Wildlife Service should be checked for updates.

WATER FRAMEWORK DIRECTIVE

The 2000 Water Framework Directive aims to ensure all waters in Europe can be classified as being unpolluted (good status) by 2027. In Ireland the River Basin Management Plans will set out the measures which will be implemented to protect and improve the quality of all waters. A key provision of the Water Framework Directive is to ensure protected water-dependent habitats are free of pollution and other pressures which might limit the survival of the species within that habitat. See www.wfdireland.net for more information.

STRATEGIC ENVIRONMENTAL ASSESSMENT

Strategic Environmental Assessment (SEA) is defined as “the formal systematic and comprehensive process of evaluating the effects of a proposed policy, plan or programme or its alternatives including the written report on the findings of the evaluation, and using the findings in publicly accountable decision making”. The SEA process which involves preparation of an Environmental Report must include objectives for the protection of biodiversity, flora and fauna, assess the impacts of the proposed plan or policy on these environmental objectives and also set indicators for biodiversity to monitor the impacts of the proposed plan or policy on the environmental objectives.

APPROPRIATE ASSESSMENT

Under Article 6(3) and 6(4) of the Habitats Directive, Local Authorities have certain roles, functions and responsibilities in ensuring that any plan or project which is likely to have a significant effect on a Natura 2000 site (i.e. an area designated as an SAC or SPA) is properly assessed to make sure that the implications of any impacts on the nature conservation

interests of the site are understood. Plans or projects that are likely to have a negative impact can only proceed where there are reasons of overriding public interest. Further guidance on this is available at <http://www.npws.ie/en/WildlifePlanningtheLaw/AppropriateAssessment/>.

TREE FELLING

Landowners are required under the Forestry Act, 1946, to give notice of intention to fell trees, following which prohibition orders are normally served. These remain in force pending the issue of a Limited Felling Licence, which can include environmental and replanting conditions. General Felling Licenses are normally granted to large estates where a management programme is in place, or in respect of lands to facilitate new planting, or for silvicultural thinnings. www.agriculture.gov.ie/forests-service/tree-felling/

FISHERIES

The Fisheries Boards are charged with ensuring the observance of the Fishery Acts, Bye-Laws and Orders. Their purpose is to ensure the protection and conservation of our fishery resource. The Boards' responsibilities cover both inland waterways and out to the twelve mile limit off the coast.

Section 8 (i) of the Fisheries (Amendment) Act 1999 states that a regional fisheries board shall “in the performance of its functions, have regard to the need for the sustainable development of the inland fisheries resource (including the conservation of fish and other species of fauna and flora habitats and the biodiversity of inland water ecosystems) and as far as possible ensure that its activities are carried out so as to protect the national heritage, within the meaning of the Heritage Act, 1995.” www.srfb.ie.



Banded demoiselle



Dead wood is habitat for fungi



River Suir at Holycross

ACTION FOR BIODIVERSITY

In devising this first plan of action for biodiversity in South Tipperary, factors taken into consideration included the following:

- The lead role of the local authority in taking the plan forward
- The need to devise actions that will increase awareness and understanding of biodiversity
- The need for actions that are realistic, achievable and cost-effective, both in number and in scope, within the five-year span of the plan

ABBREVIATIONS

HO	Heritage Officer of South Tipperary County Council
PAO	Public Awareness Officer of South Tipperary County Council
NPWS	National Parks & Wildlife Service
NBDC	National Biodiversity Data Centre
DoEHLG	Department of Environment, Heritage & Local Government

NO.	ACTION	LEAD PARTNER(S)	OTHER PARTNERS	CORE RESOURCES
1	Provide information and training to local authority staff and members on biodiversity issues, especially: <ul style="list-style-type: none"> ■ invasive species ■ where to access biodiversity information on council GIS and other sources ■ biodiversity issues in community projects ■ biodiversity enhancement of public spaces ■ obligations under nature conservation law 	South Tipperary County Council via HO	NPWS, NBDC	Heritage Council In-house skills Experienced staff in other local authorities DoEHLG/NPWS
2	Provide biodiversity information from existing resources, to community groups, schools, & businesses, especially those who receive advice and grant aid from the local authority	South Tipperary County Council via HO, PAO	Heritage Council, An Taisce, Tidy Towns	Publications and advice from Heritage Council, DoEHLG/NPWS, An Taisce
3	Provide best practice guidance for tourism and recreation providers regarding development of outdoor recreation and interpretation of natural heritage	South Tipperary Development Company, Failte Ireland; Coillte	South Tipperary County Council	Publications and advice from Heritage Council, DoEHLG/NPWS, An Taisce, Coillte, Leave no Trace Ireland, Failte Ireland
4	Use flagship species to involve the public in gathering biodiversity data and raising awareness, including: <ul style="list-style-type: none"> ■ bee ■ red squirrel ■ marsh fritillary/devil's bit scabious 	South Tipperary County Council via HO	Biodiversity Forum	Knowledge in Biodiversity Forum; HO and PAO; Tipperary Institute Centre for Biodiversity; South Tipp Co. Co. GIS section, NBDC
5	Include extra biodiversity information from existing resources in existing schools education programme 'Something Fishy'	Southern Regional Fisheries Board	South Tipperary County Council	SRFB with publications and advice from Heritage Council, DoEHLG/NPWS
6	Provide information and training days for landowners on requirements in designated nature conservation sites	NPWS	Teagasc, South Tipperary IFA; Biodiversity Forum	Local NPWS staff
7	Use existing data to carry out an audit of wetlands in the county, with a concurrent participation and awareness campaign	South Tipperary County Council	NPWS; Biodiversity Forum	Data of Geological Survey of Ireland, Environmental Protection Agency
8	Conduct an awareness-raising and data-gathering campaign on invasive species in the county. Promote best practice in control of invasive species.	South Tipperary County Council	NPWS, NBDC, Invasive Species Ireland	Invasive Species Ireland

WHO IS ALREADY TAKING ACTION FOR BIODIVERSITY?

This is a list of examples of actions that are already taking place, that are relevant to biodiversity in the county. This is not an exhaustive list and many other groups and individuals are involved in taking positive action for nature.

WHO	WHAT	CONTACT
An Taisce	<ul style="list-style-type: none"> Runs environmental enhancement programmes such as Green Schools, Spring Clean, Green Communities 	www.antaisce.ie
Beekeepers' Association	<ul style="list-style-type: none"> Encourage tree planting as food plants for bees Raise awareness of importance of bees as a natural resource 	www.southtipbbees.com
Bord Na Móna	<ul style="list-style-type: none"> Manages some areas of peatland in the county. Developing sustainable uses of peatlands, including biodiversity aspects 	www.bordnamona.com
Botanical Society of the British Isles	<ul style="list-style-type: none"> Studies plant distribution and taxonomy Local botanical recorder collects data on plants in the county. Field outings are held occasionally. 	www.bsbi.org.uk
BirdWatch Ireland Tipperary branch	<ul style="list-style-type: none"> Hold local birdwatching events Liaise with council and local groups on enhancement for wildlife Raise awareness through local media Gather data on bird populations (and other species) 	www.birdwatchtipp.com www.birdwatchireland.ie
Coillte	<ul style="list-style-type: none"> Set aside part of their land to be managed for biodiversity Implement action plans for species affected by forestry operations Implement Forest Service regulations for sustainable forestry Provide access to nature via open forest policy Promote and support best practice in developing forest amenities 	www.coillte.ie www.coillteoutdoors.ie
Community Food Initiatives	<ul style="list-style-type: none"> Promote sustainable food production and care of biodiversity in allotments, community gardens and private gardens 	www.facebook.com/people/Aimsir-Bia/1589035024 www.knockanrawley.ie/TheOrganicGarden http://clonmelallotments.wordpress.com/
Failte Ireland	<ul style="list-style-type: none"> Facilitate access to and interpretation of nature for tourism Developing best practice guidance on eco-tourism 	www.failteireland.ie
Farming organisations	<ul style="list-style-type: none"> Facilitate training and best practice demonstrations for farmers 	www.ifa.ie www.icmsa.ie www.icsaireland.com www.iofga.org www.organic-trust.org
Gun clubs	<ul style="list-style-type: none"> Promote habitat enhancement for wildlife Control certain invasive species e.g. grey squirrel 	www.nargc.ie
Heritage Council	<ul style="list-style-type: none"> Develop and publish best practice guidance on wildlife management Provide funding for natural heritage projects 	www.heritagecouncil.ie



WHO	WHAT	CONTACT
Invasive Species Ireland	<ul style="list-style-type: none"> The Invasive Species Ireland project is a joint venture between the Northern Ireland Environment Agency and the National Parks and Wildlife Service to address the issue of invasive species in Ireland 	www.invasivespeciesireland.com
Irish Seed Savers	<ul style="list-style-type: none"> Protect, conserve & utilise Irish plant genetic resources including rare heritage seeds, grains, vegetables & fruit. Promote agricultural biodiversity for food security. Educate the public on agricultural biodiversity and food security through information and workshops Research seed, grain, vegetable and fruit varieties suited to Ireland's temperate maritime climate 	www.irishseedsavers.ie
National Biodiversity Data Centre	<ul style="list-style-type: none"> Hub for the exchange of data between governmental organisations, NGOs, research institutions and volunteer recorders. Collates, manages, analyses and disseminates data and information on Ireland's biological diversity 	www.biodiversityireland.ie
NPWS	<ul style="list-style-type: none"> Monitor designated nature conservation areas Provide information on conservation management Survey and map habitats and species 	www.npws.ie
South Tipperary Development Company	<ul style="list-style-type: none"> Support community environmental initiatives e.g. Golden Mile Support and promote best practice in sustainable development of natural resources, e.g. walking trails 	Carrigeen Industrial Estate Carrigeen, Cahir 052 7442652
South Tipperary Local Authorities	<ul style="list-style-type: none"> Provide advice and information for community groups e.g. Tidy Towns, graveyard committees, Green Schools Include biodiversity considerations in policies and guidance Planting and landscaping in urban areas Education and awareness (including the County Museum) Water quality protection and enhancement Waste control Support community initiatives Active management for biodiversity e.g. Tipperary Hills 	www.southtippcoco.ie
Southern Regional Fisheries Board	<ul style="list-style-type: none"> Monitor water quality and enforce pollution control Ensure sustainable use of the inland fishery resource Provide information and education on our rivers and lakes (Shannon Board covers small part of west of county) 	www.srfb.ie www.shannon-fishery-board.ie
Teagasc	<ul style="list-style-type: none"> Provide training for farmers on aspects of farm biodiversity 	www.teagasc.ie
Tidy Towns and other community groups	<ul style="list-style-type: none"> Include biodiversity in local projects Raise awareness of local wildlife features 	Various www.tidytowns.ie
Tipperary Institute	<ul style="list-style-type: none"> Run Centre for Biodiversity Gather and hold biological data 	www.tippinst.ie www.biodata.ie

CONSULTATION SUBMISSIONS

Sean Breen	National Parks & Wildlife Service
Joe Burke	South Tipperary County Council
Douglas Butler	Zoologist
Sean Carey	South Tipperary County Council
Sinead Carr	South Tipperary County Council
Pat Clancy	Past NPWS ranger
Liam Cleary	Coillte
Kevin Collins	BirdWatch Ireland
Caroline Conway	South Tipperary County Council
Jonathan Cooney	South Tipperary County Council
Paddy Crotty	South Tipperary County Council
Kathryn Crowley	Individual
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Catherine Farrell	Bord na Mona
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Clare Lee	South Tipperary County Council
Bernard Lennon	Peaks Mountaineering
John Lusby	BirdWatch Ireland
Ciaran Lynch	Tipperary Institute
Mary Lyng	MACRA
TJ Maher	IFA
Lyn & Mathew Mather	Individual
Mike Maunsell	Tipperary Institute
Marie McMahon	South Tipperary County Museum
Micheal McNamara	Gun clubs
Brendan McSherry	Louth County Council
Paul Mulcahy	South Tipperary County Council
Tina Mulhearn	Clonmel Chamber of Commerce
Debbie Murphy	South Tipperary County Council
Gerry Murphy	Coillte
Albert Nolan	BirdWatch Ireland
Mary O'Brien	Coillte
Mary O'Halloran	Fáilte Ireland
Gordon Peppard	Teagasc
Anne Peters	South Tipperary County Council
Kevin Phelan	South Tipperary County Council
Marie Phelan	South Tipperary County Council
Eoin Powell	South Tipperary County Council
Jim Power	Carrick Boat Club
Sheila Price	Kilsheelan Tidy Towns
Eric Ryan	South Tipperary County Council
Denis Ryan	Beekeepers
Maria Taylor	Cahir
Michael Tierney	South Tipperary County Council
Evan Walsh	South Tipperary County Council
The Cathaoirleach and members of South Tipperary County Council	

IRISH NATIVE TREE AND SHRUB SPECIES



ALDER



ASH



HAZEL



BIRD CHERRY



GUELDER ROSE



CRAB APPLE



HAWTHORN



SPINDLE



WILD CHERRY



YEW

Our native tree and shrub species have lived in Ireland for thousands of years, spreading by seed from Europe as the glaciers retreated after the last ice age. Because they have been here for so long, our other native plants, animals, birds and insects have evolved with them. That is why native trees and shrubs are usually better for our wildlife, than other types that don't grow here naturally. For example, sycamore is not native to Ireland or Britain, but to

central Europe, while horse-chestnut is native in the Balkans but not in Ireland.

When sourcing native trees and shrubs for planting, it is important to know the scientific name, as this is the only way you can be sure that you are getting the right species. For example, if you ask for alder in a nursery, you could get *Alnus glutinosa* (native alder), *Alnus cordata* or *Alnus incana* (both of which are not native). Also, even though it might

be the right species, it could have been grown from seed in a nursery in Europe and imported to Ireland. This means it is not of native 'provenance'. The cheapest and best way to grow native trees and shrubs is from seeds, nuts and cuttings gathered in your own locality.

Some nurseries that supply native species grown from Irish seed are: Coillte Nurseries, Ballintemple, Carlow; and Future Forests, Bantry, Cork.

COMMON NAME	IRISH NAME	SCIENTIFIC NAME
Alder	Fearnóg	<i>Alnus glutinosa</i>
Ash	Fuinseóg	<i>Fraxinus excelsior</i>
Aspen	Crann Creathach	<i>Populus tremula</i>
Birch (Downy)	Beith	<i>Betula pubescens</i>
Birch (Silver)	Beith	<i>Betula pendula</i>
Blackthorn	Draighean	<i>Prunus spinosa</i>
Broom	Giolcach	<i>Cytisus scoparius</i>
Buckthorn	Ramh-draighean	<i>Rhamnus catharticus</i>
Cherry (Wild)	Sílín	<i>Prunus avium</i>
Cherry (Bird)	—	<i>Prunus padus</i>
Crab apple	Úll	<i>Malus sylvestris</i>
Elder	Trom	<i>Sambucus nigra</i>
Wych Elm	Leamhán	<i>Ulmus glabra</i>
Furze (Common)	Aiteann	<i>Ulex europaeus</i>
Furze (Mountain)	Aiteann	<i>Ulex gallii</i>
Guelder rose	—	<i>Viburnum opulus</i>
Hawthorn (Whitethorn)	Sceach gheal	<i>Crataegus monogyna</i>
Hazel	Coll	<i>Corylus avellana</i>
Holly	Cuilleann	<i>Ilex aquifolium</i>
Juniper	Aiteal	<i>Juniperus communis</i>
Oak (Pedunculate)	Dair	<i>Quercus robur</i>
Oak (Sessile)	Dair	<i>Quercus petraea</i>
Rowan	Caorthann	<i>Sorbus aucuparia</i>
Scots pine	Giúis	<i>Pinus sylvestris</i>
Spindle	Feoras	<i>Euonymus europaeus</i>
Strawberry tree	Caithne	<i>Arbutus unedo</i>
Whitebeam (Common)	Fionncholl	<i>Sorbus aria</i>
Whitebeam (Irish)	Fionncholl	<i>Sorbus hibernica</i>
Willow (Goat)	Saileach	<i>Salix caprea</i>
Willow (Grey/Sally)	Saileach	<i>Salix cinerea</i>
Yew	lúr	<i>Taxus baccata</i>

PROTECTED AREAS IN SOUTH TIPPERARY

NATURAL HERITAGE AREAS

002388	Slievenamon Bog NHA
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PROPOSED NATURAL HERITAGE AREAS

000405	Kyleadohir Wood Nature Reserve
000639	Annacarty Wetlands
000646	Galtee Mountains
000649	Knockavilla National School, Dundrum
000651	Mitchelstown Caves
000655	River Suir Below Carrick-On-Suir
000945	Ardmayle Pond
000947	Cahir Park Woodland
000948	Aughnaglanny Valley
000950	Dundrum Sanctuary
000952	Glenboy Wood
000954	Grove Wood
000956	Inchinquilib And Dowlings Woods
000958	Kilcooly Abbey Lake
000959	Killough Hill
000961	Knockanavar Wood
000964	Knockroe Fox Covert
000965	Laffansbridge
000966	Moneypark, Fethard
000969	Power's Wood
000970	Rockwell College Lake
000971	Scaragh Wood
000972	Shanbally Wood
001526	Quarryford Bridge
001844	Ballydonagh Marsh
001845	Doonor Marsh
001846	Ballyneill Marsh
001847	Philipston Marsh
001848	Kilbeg Marsh
001851	Bilboa And Gortnageragh River Valleys
001980	Lizzy Smyth's Bog
001981	Marfield Lake
001982	Templetney Quarry
001984	Greenane Marsh
002043	Bansha Wood
002096	Dundrum

SPECIAL AREAS OF CONSERVATION

000646	Galtee Mountains
001847	Philipston Marsh
002125	Anglesey Road
002137	Lower River Suir
002162	River Barrow And River Nore
002165	Lower River Shannon
002170	Blackwater River (Cork/Waterford)
002257	Moanour Mountain

SPECIAL PROTECTION AREAS

004165	Slievefelim to Silvermines Mountains SPA
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Details on the areas covered can be viewed on www.npws.ie/en/MapsData/



Bansha Wood – proposed Natural Heritage Area



*Inch Field, Cabir
Lower River Suir Special Area of Conservation*



*Lower River Suir
Special Area of Conservation at Holycross*

CREDITS & ADDITIONAL CAPTIONS

ALL PHOTOGRAPHS BY MIEKE MUYLLAERT UNLESS OTHERWISE STATED

PAGE	CAPTION	PHOTOGRAPHER
Cover	South Tipperary Biodiversity banner	Ruth Maher
Frontispiece	Tipperary heritage variety apple tree	Mieke Muyliaert
2	Lapwing	Kevin Collins
2-3, 4-5	River Suir landscape	Courtesy of Marie McMahon, County Museum
6	Red-tailed bumblebee on common knapweed	Kevin Collins
	Tipperary Hills Appreciation Day	Labhaoise McKenna
	Tipperary Town landscape	CK Photography
10	Golden Vale landscape	Clare Lee
	Coláiste Dún Iascaigh	Stephen O'Brien
	National Spring Clean 2009	
11	Tipperary hurler Paul Kelly Mullinahone	John D. Kelly
	Foxglove	J.R. Crellin
12	Town allotment	Pat Lynch
14	Hedge trimming	Gordon Peppard, Teagasc
	Organically-farmed Galloway cattle	Joe Condon, Omega Beef Direct
15	Hedgelaying	Gordon Peppard, Teagasc
16	Oak tree	Mieke Muyliaert
16	Common bugle	Mieke Muyliaert
17	Yew seedling in Cahir Park Woodland	Courtesy of Coillte
	New forest signage	Courtesy of Coillte
18	Tobar losa, Cahir	Francesca Sutherland
20	Round-leaved sundew	Fionnuala O'Neill
	Winter morning, Galtee Mountains	Ruth Maher
21	Walking the Tipperary Heritage Way	Courtesy of Fáilte Ireland
	Dumped cars	Kevin Collins
22	Companion planting	Aimsir Bia
23	Clonmel Allotments	John Kelly
	Community garden	Aimsir Bia
24	Yellowhammer, Peregrine falcon	Kevin Collins
	Robin	Sean Breen
25	Barn owl	John Lusby
26	Hedgehog	Lorcan Scott
	Pine marten	Lorcan Scott
	Brown long-eared bat	Phil Richardson
	Brown long-eared bat roost	Conor Kelleher
	Leisler's bat	Phil Richardson
	Daubenton's bat	Phil Richardson
	Soprano pipistrelle	Phil Richardson
27	Red squirrel	Joe Kilroy
28	Common frog	Kevin Collins
29	Atlantic salmon	Courtesy of Fran Igoe/SRFB
30	Marsh Fritillary butterfly	Kevin Collins
31	Orange Tip butterfly	Kevin Collins
32	Early purple orchid	Mieke Muyliaert
34	Clouds	Connie Scanlon
35	Japanese knotweed	Colette O'Flynn
	Himalayan balsam	Colette O'Flynn
	Giant hogweed	Seamus Forde
38	Banded demoiselle	Kevin Collins
42	Yew	Courtesy of Coillte
45	Marsh marigold	Mieke Muyliaert
Back page	Companion planting in community garden	Aimsir Bia
	Native fruit-tree planting in schools	Courtesy of Clonmel Allotments
	Loch Doire Bhile Biodiversity Day 2009	Labhaoise McKenna
	Herbal walk	Courtesy of Clonmel Transition Town

South Tipperary County Council would like to sincerely thank all those who contributed text and photographs to the plan.





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South Tipperary Biodiversity Action Plan

2010-2015



An Chomhairle Oidhreachta
The Heritage Council

