COUNTY KILDARE'S WONDERFUL WETLANDS



Comhairle Contae Chill Dara Kildare County Council

Boardwalk at Lodge Bog

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WHAT IS A WETLAND?

Wetlands are just that, wet-lands. Or put more formally: "A wetland is a place that has been wet enough for a long enough time to develop specially adapted vegetation and other organisms".

Wetland is a collective term for ecosystems (habitats and their species) whose formation has been influenced by water, and whose processes, characteristics and associated plants and animal are largely controlled and influenced by water.

Wetlands occur where the water table is at or near the surface of the land, or where the land is covered by a layer of shallow water, for some or all of the year. There are naturally occurring wetlands such as lakes, rivers, bogs, heaths, turloughs, fens, swamps and wet woodlands produced as a result of natural environmental processes. There are also artificial human made wetlands such as fish ponds, farm ponds, reservoirs, gravel pit ponds, constructed wetlands, motorway attenuation ponds, drainage ditches and canals.

Since prehistoric times, even in so called "natural" wetland systems, humankind has played a major factor in wetland formation. In Ireland, forest clearance in the uplands helped trigger soil and vegetation changes, which together with a changing climate altered the hydrology leading to bog formation. While in bogs that have been harvested for fuel and their peat deposits removed, the flooding of the abandoned peat diggings has created new secondary wetlands, including shallow lakes, with reed swamp, fen, marsh and wet woodland areas.

In contrast to some other habitat types such as ancient woodlands, wetlands are often young and dynamic ecosystems, changing in a relatively short period of time as vegetation changes, sediments are laid down, and local hydrological conditions are altered.

Wetlands are more than just water or a list of habitats together with their flora and fauna. Wetlands have cultural and historic features that are truly ancient. From the earliest times, wetlands have provided food and building materials, shelter and protection, a mode or obstacle to transport for people, and even a source of spiritual power to early cultures.

Sadly, humankind has caused a major loss of wetlands and the wildlife they supported in the past, through river drainage schemes, agricultural land reclamation, cutting of peat bogs and drainage and afforestation of wetland areas. We hope this introduction to the fascinating world of wetlands will help inspire people about these wonderful places and drive the trend to see more of them safeguarded.



Newabbey Pond, Co. Kildare. The lake has a fringe of reed swamp vegetation dominated by bulrush and water horsetail.

WETLAND VALUES

Wetlands are the most biologically diverse of all ecosystems, serving as home to a wide range of plant and animal life. Wetlands are a vital part of the freshwater cycle. The complex interaction of their components – water, soil, plants and animals, delivers many important ecological functions and ecological services from which we benefit.

Wetlands are both providers and users of water. They need water in order to maintain their structures and functions, and they provide water, both in terms of quantity and quality.

The multiple roles of wetland ecosystems, also called ecosystem services, and their value to humanity have been increasingly understood and documented in recent years, as in the Irish Government report on the Economic & Social Aspects of Biodiversity. Internationally and at home, this has led to major efforts being made to protect and restore lost or degraded wetlands.

Wetlands provide many ecosystem services that we ourselves benefit and depend.

 Wetlands improve water quality by removing and sequestering pollutants and sediments in the water including in constructed wetlands created to treat urban and farm waste water;



Constructed wetlands are an environmentally friendly method for treating and cleaning waste water which relies on reeds and wetland plants to remove nutrients and other chemicals from water as it passes through the system.

- Wetlands are of high importance to fisheries. Over two thirds of the world's fish harvest is linked to the health of coastal and inland wetland areas;
- Wetlands may be of high importance to agriculture and timber production, through the maintenance of water tables and nutrient retention in floodplains;
- Wetlands store floodwaters, acting like natural sponges and slow down the force of flood and storm waters as they travel downstream. Far from posing a flood threat, wetlands should be viewed as flood buffers, to protect areas where people live;
- Wetlands may provide important energy resources, such as peat and plant matter;



Pollardstown Fen, Co. Kildare, Ireland's largest intact fen.



Diverse lake edge vegetation offers valuable habitats for amphibians, birds and insects.

Grand Canal, Co. Kildare

- Wetlands may be of value to transport, recreation and the income generated by tourism;
- Wetlands offer habitat for wildlife. Many migratory birds and other wildlife depend on the ecological setting of wetlands for their food, habitats in which to nest and for their survival;
- Wetlands support biodiversity. The variety of living organisms found in wetlands contributes to the health of our planet and our own lives;
- Wetlands provide valuable open space and create wonderful recreational opportunities. Hiking, fishing, boating and bird watching are just a few of the activities people can enjoy in wetland areas;



Wetlands provide important recreational areas for people to enjoy.

- Wetlands are vital in preventing further climate change by acting as a store of carbon. Until recently this has not been fully appreciated, and in Ireland it has still not been adequately communicated. Peatlands are known to store 20-30% of the world's soil carbon exceeding the amounts stored in rainforests by a factor of three.
- Wetlands have played a special part in the cultural heritage of humanity: they are related to religious and cosmological beliefs, constitute a source of aesthetic inspiration and form the basis of many important local traditions.



Damage caused to the edge of a raised bog as a result of peat extraction.

These functions, values, and attributes of wetlands can only be maintained if the ecological processes of wetlands are allowed to continue functioning. Wetlands continue to be among the world's most threatened ecosystems, owing mainly to ongoing drainage, conversion (most often to agricultural lands), pollution, and over-exploitation of their resources. Putting an economic value on something as abstract as the ecological services of a wetland is a difficult idea, but is becoming a more accepted economic tool. More commonly, the open market puts monetary values on society's goods and services. In the case of wetlands, there is no direct market for services such as clean water, maintenance of biodiversity, and flood control. There is, however, a growing recognition that such natural functions do have real economic value and that these values need to be included in our decision-making processes.



The Corlea Iron Age trackway, one of many wooden trackways found throughout Ireland, which offered ancient travellers safe passage through wet boggy ground.

WETLANDS IN COUNTY KILDARE

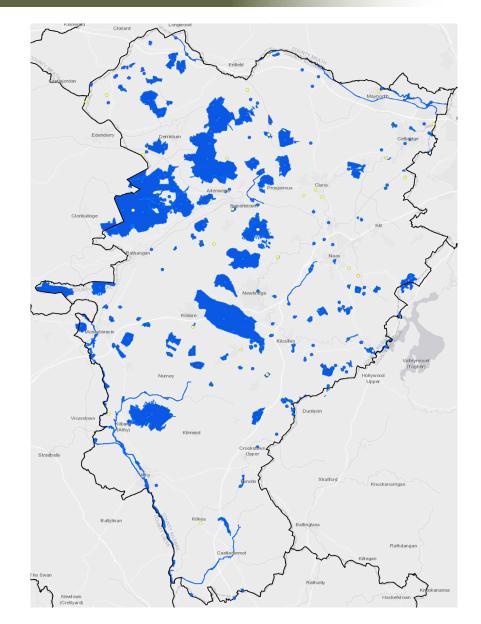
County Kildare contains a wide range of freshwater wetlands, and these together with their associated species are of high international and national conservation importance.

Kildare has freshwater wetland habitats ranging from canals such as the Royal and Grand Canal, rivers such as the River Barrow along the border with County Laois, lakes such as Ballynafagh Lake SAC, ponds, raised bog such as the Ballynafagh Bog SAC and Ballina, Lodge and Mouds bogs, the many cutover bogs within the former Bog of Allen, fens such as Pollardstown Ireland's largest alkaline fen, species rich wet grassland, marshes, reed swamps, calcareous or tufa springs, wet woodlands and many more.

Between 2012 to 2014 Kildare County Council commissioned the survey and mapping of 141 wetlands in the county as part of a three years study called the County Kildare Wetland Survey.

This study found that wetlands covered an estimated 8,242 hectares or 4.9% of County Kildare which has a total surface area of approximately 1,695 km2. Of this, the most extensive wetland habitat was cutover bog covering an area of ca 3,500 hectares, while approximately 1,269 hectares of raised bog remained intact in 2014.

In the sections which follow some of the more commonly encountered and important wetland types in County Kildare, and a selection of the fascinating wildlife found in wetlands are described in more detail.



Map showing the distribution of wetlands in County Kildare. (Source: County Kildare Wetland Surveys 2012-2014). Further details on these wetlands in Kildare can be viewed found on the Map of Irish Wetlands at: bit.ly/Map of Irish Wetlands

RAISED BOGS

The main bog type that occurs in County Kildare is raised bog. The common feature of intact raised bogs is that they are wet and soft (Irish: bogach) to walk on because they are made of waterlogged peat, which is formed from partially decomposed plant remains.

Raised bogs developed in water filled lowland hollows or lakes 10,000 years ago. Sphagnum moss grew in these hollows, and over time their remains accumulated and turned into peat, causing the surface of the bog to rise above the original water table, to form peat domes, hence the name raised bog.

This habitat type was once the most widespread wetland type in County Kildare before peat cutting, especially industrial peat cutting, removed the layer of peat for fuel, a process which became industrialised with the establishment of the Turf Development Board in the 1930s. A number of areas of relatively intact raised bog are still present in the county in a sites such as Ballynafagh, Ballina, Lodge, Mouds and Carbury bogs which are of national or international importance.



Raised bog habitat at Ballinafagh Bog, dominated by extensive area of White beak sedge.



Raised bog habitat with ling heather at Ballina Bog.



Raised bog habitat at Ardkill / Carbury Bog with abundant lichen growth.



Raised bog habitat at Red Bog, one of the intact raised bogs remaining in Kildare.



Sphagnum moss dominated wet pool area on Timahoe North Bog.

CUTAWAY & CUTOVER BOGS

Removal of turf for domestic fuel from around the edges of raised created cutover bog.

The extraction of peat on an industrial scale results in layer after layer of peat being removed from the bog until you reach the underlying mineral soil. These areas are called cutaway bogs. When peat extraction ceased and these cutaway bogs were they were abandoned, the areas often flood in whole or in part, and regenerated secondary wetland communities, with a mosaic of pools, fen, wet grassland and wet woodland habitats.

On cutover bogs secondary bog vegetation can also form in wetter marginal areas.



Cutaway bog at Timahoe South showing areas of birch woodland in distance and secondary fen in the foreground.



Cutover bog peat drying field at Derrylea.



Degraded raised bog cutaway habitat with tall ling heather at Lodge.



Cutover bog at Lullymore West, dominated by wet grassland.

FENS

A fen is a wetland system with a permanently high water table at or just below its surface that receives nutrients via direct contact with mineral enriched surface or groundwater. Fens can also develop on areas with a history of extensive peat extraction, and these secondary fens are common at various location in County Kildare.

Fens are characterised by a rich selection of sedges and grasses which make up a framework on which the flowering plants, brown mosses and fen wildlife depends.

Four main fen types are recorded in County Kildare. Poor fen is found in bog areas, transition mire is frequent throughout the county on lakeshores, in wet infilling hollows and in regenerating cutover bog areas. Alkaline fen and Cladium fen are influenced by base rich alkaline water, and occur at locations such as Pollardstown Fen and Suncroft Fen.



Quaking transition mire vegetation on Swordlestown Fen.



Alkaline fen with Black Bog rush at Suncroft Fen.



Saw Sedge Fen on Pollardstown Fen.

CANALS & RIVERS

Rivers, smaller waterways and canals are an important habitats in County Kildare. The rivers and canals in County Kildare are important for biodiversity and provide amenity and recreational resources. The County's rivers and canals are habitats that support a wide range of species and provide important habitat corridors along which wildlife can migrate.

The principal lowland river flowing along the western border of County Kildare is the River Barrow. The two other important artificial waterways are the Grand and Royal canals.

Deposting rivers such as the Barrow include those where fine sediments are deposited on the riverbed. Depositing conditions are typical of lowland areas where gradients are low and water flow is slow and sluggish. These rivers vary in size but are usually larger and deeper than those in upland areas. In a natural state lowland rivers erode their banks and meander across floodplains.

Canals are artificial linear bodies of water that were originally constructed for navigation. They generally lack a strong current and significant channel or bank erosion. This means that canals tend to have closer affinities with pond habitats than rivers. They are readily colonised by aquatic plants. Canals require management and on-going maintenance to keep them open and operational.



River Barrow, south of Athy.



Section of the Barrow Canal, near Athy with reed swamp and wet woodland dominated by Alder.



Corbally branch of the Grand Canal.



Royal Canal maintenance work near Ballynadrummy.

LAKES & SWAMPS

County Kildare has a selection of different lake and pond types, including dystrophic, mesotrophic and eutrophic lakes.

Dystrophic lakes, are lakes that contain high amounts of humic substances and organic acids, and are found in cutover and cutaway bog areas. There are few natural dystrophic lakes within the county.

Mesotrophic lakes and ponds are waterbodies that are moderately rich in nutrients, and where the water is sometimes discoloured by algae. Characteristic aquatic plants include White Water- lily, Yellow Water-lily and a large number of Pondweeds and Stoneworts may also be present. The fringing and aquatic plant communities are typically more lush than those associated with oligotrophic lakes.

Eutrophic lakes and ponds are waterbodies that are high in nutrients and base-rich and the water is usually discoloured or turbid, often grey to green in colour, from the abundant algae and sus- pended matter present. Some water bodies are naturally eutrophic but most Irish lakes are eutrophic as a result of enrichment and high levels of nutrients entering the water. Swamp habitat occurs around many of the lakes and on fens in County Kildare and usually remain waterlogged throughout the year. Swamps have lots of tall perennial grasses such as bulrush or reedmace, reed sweet-grass, common clubrush, common reed and reed canarygrass.

Swamps are rich in invertebrate life and support a number of notable bird species including reed warbler, water rail, moorhen and other waterfowl. They are also prime habitats for a number of freshwater molluscs and water beetles and provide ideal cover for otter and water rail. The reed stems are also the food plant for a number of moth species.



Farm pond with marginal swamp and wet grassland habitat at Tober Demesne.



Artificial ponds with reed swamp vegetation at Moyvalley Golf Club.



Artificial lake with reed swamp formed by bulrush and reedmace at Kilbarry cutaway.



Mesotrophic lake with reed swamp formed by bulrush and tall sedges at Donadea Forest Park.

WET WOODLANDS

This broad habitat category includes woodlands of periodically or permanently waterlogged sites. These woodland habitats may contain a variety of trees including birch, ash, alder and various willow species.

Wet woodlands occur on basin peats on flat sites in the lowlands, such as lakeshores, river margins and in fens, where the woodland is known as carr. The soils are mildly acidic to strongly basic and generally nutrient enriched. The herb layer in wet woodlands is very rich in species with an abundance of moisture-loving herbs.

Bog woodlands are a type of wet woodland that occurs on peat at the edge of raised bogs and on some regenerating cutover bog sites. They usually are dominated by birch trees which prefer the acidic peat soil conditions.



Willow and alder wet woodland forms open canopy with a rich understory layer of wetland plants.



Mature birch bog woodland on cutover raised bog.



Area of cutover raised bog which has developed a mosaic of wetland habitats including birch dominated bog woodland with open pool areas.



Winter aspect of wet willow woodland.

WETLAND BIODIVERSITY

Wetlands are the most biologically diverse of all ecosystems, serving as home to a wide range of plant and animal life.

Wetlands are a critical part of our natural environment, and play a key role in supporting Kildare's biological diversity. Wetlands are rich in biodiversity, supporting numerous species from all of the major groups of organisms - from microbes, fungi, mosses to plants, invertebrates, amphibians, birds and mammals. Wetlands support species during important life stages by providing breeding, roosting, nesting and feeding habitats as well as refuges during adverse weather conditions. They also form corridors or stepping stone habitats by providing stop-offs that support the migration of species such as waterbirds. Physical and chemical features of the wetland habitat such as climate, topography (landscape shape), geology, nutrients, and hydrology (the quantity and movement of water) determine what plants and animals will inhabit various wetland habitat types.



One of the many fungi found on wetlands, here growing on Sphagnum hummock on Ballina Bog. Little is known about many of the fungi found in wetlands.

WETLAND PLANTS

Wetland plants (or hydrophytes) are plants that grow in water or need a waterlogged environment and include a large variety of trees, shrubs, herbs, grasses, sedges, ferns, mosses and algae. Many of these species have special adaptations to allow them to live in the waterlogged environment found in wetlands. Shallow roots or hollow stems facilitate survival of the root system during times of waterlogging and low oxygen levels. These and other adaptations also enable plants to grow in extremely acid habitats such as a bog.

WETLAND WILDLIFE

The many wetland plants and the habitats they create are home to a large array of animals that live in wetlands, making the rich biodiversity areas. Some of these animals use both wetland and adjacent dry land habitats during their life cycle (e.g. birds of prey and bats), while others live out their entire life within the wetland habitat and are entirely dependent on the wetland for their survival (e.g. otter, grouse, curlew, amphibians, many invertebrates, moths and butterflies). Many of these wetland species have declined significantly in recent times as wetlands have been reclaimed and reduced in number.

Kildare's many lakes and rivers are rich in fish life, and provide a valuable income stream for the county from visiting anglers. This wetland resource offers fishing famous for specimen bream, ponds that are loaded with brightly coloured rudd, tench, and vast lakes alive with roach and hybrids.



Large Dark Olive Mayfly and species totally dependent on wetlands for their life cycle. This mayfly has large cylindrical "turban" eyes that face upwards in addition to smaller lateral eyes.

WETLAND ANIMALS



The Common frog our most abundant and widespread amphibian found on most wetlands in Kildare.



Ireland's only native reptile the Viviparous lizard, can often be seen sunning itself on bogs, such as Lodge Bog.



The Smooth newt is an amphibian found in wetlands.



Rudd in still lake water in the Grand Canal with rich wetland plant diversity.

WETLAND ANIMALS



Grey heron rely completely on wetlands for their food, consisting of fish and amphibians.



Meadow Pipit perching on willow. Its song is a characteristic tune of summer heard on many wetlands.



The Curlew is an iconic wetland bird, that has suffered serious declines in Ireland and is now the focus of a major conservation program, including work being undertaken at Lodge Bog in Co. Kildare.



Coot with chicks. Coots use reedbeds to nest in and as a nursery ground for young chicks.

WETLAND INSECTS AND INVERTEBRATES



Sawfly on its food plant devils bit scabious, a common plant of fen and cutover habitats in the county.



Orange tip butterfly, the caterpillar of this species feed on cuckoo flower a plant common on wet grassland, fen and marsh, here at Lullymore Bog.



Emerging Four spotted chaser dragonfly, an insect carnivore found in raised bog pools.



The raft spider, an aquatic spider found in fens and small ponds, here on Ballydermot Bog, that can walk on water and feeds on aquatic invertebrates, tadpoles and even small fish.

(Photo credits: P. Foss)

WETLAND INSECTS AND INVERTEBRATES



Marsh fritillary butterfly and larvae at Lullymore West, a rare butterfly of wetland habitats which is protected by EU law.



Green tiger beetle, a carnivorous hunting beetle found on heaths and cutover bogs.



Large fox moth caterpillars are one of the species regularly encountered on bogs and heaths during the Autumn.



Giant Pond Snail the largest water snail in Ireland. The snail is found in still or slowmoving waters where there is plenty of aquatic vegetation.



One of the largest moths found in wetlands is the emperor moth, which feeds on ling heather, bilberry and other wetland plants.

WETLAND PLANTS AND MOSSES



Selection of brown mosses and liverworts on alkaline fen.



Sphagnum or bog moss, one of the main peat forming species on raised bogs in Kildare.



Alder trees are commonly found near streams, rivers, on lakeshores and in other wetlands. With the help of bacteria on its roots alder is able to fix nitrogen and improve soil fertility where it grows. As a pioneer species, it helps provide additional nitrogen for other successional species which follow.



Yellow or flag iris a species found in marsh and wet grassland habitats. The plant has been used as a form of natural water treatment since it has the ability to take up heavy metals through its roots.



Bogbean in flower. This is one of the species

Common reed the most frequent species found in reed swamp and used extensively as a traditional thatch on house roofs.



Heather or Ling is an important food source for various many bog species, while providing shelter for hares and nesting cover birds.



A common species on bogs in Kildare, the roundleaved sundew supplements its mineral intake by catching insects in its sticky leaves and digesting them.



Common club-rush found as large stands on the edge of many lakes in the county. Its straight, round stems are ideal for weaving and it is regularly used to make baskets, seats and mats and St. Bridget's crosses.

WHERE TO SEE WETLANDS IN KILDARE

County Kildare is rich in wetlands. This section includes information on sites which are open to public where you can see and explore some of these wetlands further. The sites have a variety of visitor facilities including parking, paths, boardwalks, exhibitions and information signs that will help you enjoy a visit to these magical places, and learn more about wetlands and their value to wildlife.

Some of the wetlands listed are protected as Special Areas of Conservation (SAC) or Natural Heritage Areas (NHA), so please do not disturb habitats or wildlife and leave no trace of your visit. The wetlands to visit in Kildare is based on a selection of sites shown on the Map of Irish Wetlands which you can find at http://bit.ly.MapoflrishWetlands/



See also Kildare's Wetland Heritage story map at this link: bit.ly/KildareWetlands or scan the QR code.

BOG OF ALLEN NATURE CENTRE

The Irish Peatland Conservation Council (IPCC) manages the Bog of Allen Centre, where visitors can find a range of indoor and outdoor activities to do, including wildlife attractions, walks, family fun, days out and visit the peatland museum. The centre includes a series of artificial wetland habitats including a pond, raised bog habitat and fen.

The IPCC also manages two nature reserves, Lodge Bog where visitors can experience a walk over a raised bog and Lullymore West managed for the rare Marsh Fritillary butterfly.

Further information about what's on can be found at: www.ipcc.ie

Full visitor facilities include parking, picnic area, wildlife gardens and wetland habitats, peatland museum and carnivorous plant house.





LODGE BOG NHA

Lodge Bog NHA is a raised bog which supports a variety of plants, insects, birds, mammals and amphibians, all of which are typical of the raised bog habitat. The bog is an example of an active peat forming habitat. Owned and managed as a nature reserve by the Irish Peatland Conservation Council (IPCC).

Further information: www.ipcc.ie

Facilities include boardwalk and interpretative signs (with parking at the nearby Bog of Allen Nature Centre).



(Photo credits: P. Foss & Catherine O'Connell

LULLYMORE HERITAGE & DISCOVERY PARK WETLANDS

The Heritage Park in Co. Kildare includes areas of bog woodland, cutaway bogs and ponds. Woodland occurs on the boundary between an area of mineral soil and cutover bog. The Park encompasses 60 acres of meandering trails and exhibitions and is truly the *"Gateway to the Peatlands"* for tourists wishing to discover more about one of Irelands finest natural treasures.

Visitors have an opportunity to discover how peatlands form, past uses, future possibilities for the peatlands and even the gruesome secrets of bog bodies.

Further information: www.lullymoreheritagepark.com

Full visitor facilities include parking, picnic area, walking tracks, peatland and heritage museum.

POLLARDSTOWN FEN SAC

Pollardstown Fen SAC is the largest remaining spring-fed fen in Ireland located near Newbridge in Co. Kildare. Habitats include fen, damp grassland, wet woodland and open water.

Pollardstown Fen is of international importance, as this type of fen system is now rare in Ireland and Western Europe. In addition, it contains a number of rare vegetation types and invertebrate fauna.

Facilities include parking, boardwalk and interpretative signs.









(Photo credits: P. Foss & Lullymore Heritage & Discovery Park)

BALLYNAFAGH LAKE SAC

Ballynafagh Lake SAC (or Blackwood Reservoir) lies 2km north of Prosperous town. This man-made lake, was originally built to supply water to the Grand Canal via the Blackwood (Coill Dubh) feeder. The lake has since become home to a wide variety of wildlife, and it is now an important habitat for some rare and unusal plants, insects, birds and other animals. Wetland habitats include lake, reed swamp, fen and scrub woodland.

There is a 2.4-km loop trail near Downings. Generally considered an easy route, it takes an average of 39 min to complete. This trail is great for birding, fishing, and hiking. The trail is open year-round and is beautiful to visit anytime. Depending on the weather some parts of the track can get a bit muddy, so wear appropriate footwear.

Facilities include parking, walking trail and interpretative signs.

Further information: clanecommunity.ie/amenities/ballynafagh-lake



RUSSBOROUGH HOUSE POND

Wetland mosaic composed of lakes, wet woodland, tall herb swamp, transition mire and flooded grassland within Russborough Estate on the Co. Kildare / Wicklow border. The Lake walk south of the house begins on the path to the side of the Eastern obelisks. It is a gentle walk of just over two kilometres. The path leads walkers past the Walled Garden, following its walls to Lady's Island and on towards the ornamental lakes.

The Blessington Greenway starts at the historic town of Blessington and leads south along the shores of lakes and through forest and natural woodland, terminating at the avenue that leads to Russborough.

Managed for amenity and conservation, surrounded by grazed lands.

Facilities include parking, walking trail and restaurant.

Further information: www.russborough.ie



DONADEA FOREST PARK NHA

Donadea Forest Park NHA includes Donadea Castle and estate, the former home of the Aylmer family up until 1935. There are a number of looped walking trails within the 243 hectares of mixed woodland in the park. The Lake Walk is a 1km walk around the ornamental lake with reed swamp and wet woodland habitats. There are ducks, waterhens in the lake and a beautiful display of water lilies in the summer.

There are also many historical features in the park, including the remains of the castle and walled gardens, St. Peter's church, an ice house and boat house.

Managed by Coillte for amenity and conservation. Facilities include parking, picnic area, walking trail and cafe.

Further information: www.coillte.ie/site/donadea-forest-park/





GRAND AND ROYAL CANAL NHAS

The Royal Canal and Grand Canal NHAs, and their feeder canals offer numerous opportunities for walkers to experience these created waterways and their wildlife.

The Grand Canal was opened all the way back in 1801, and it remains just as it was back then. Starting from Lucan Bridge, Co. Dublin, the Grand Canal Way follows pleasant grassy towpaths and tarmac canal-side roads all the way to Shannon Harbour. The route can easily be split into sections, so if you are in Kildare, check out this section which runs for about 40km.

The Royal Canal has similar walking routes. It was built to compete with the Grand Canal and runs almost parallel to it in parts. Now restored, it makes for an idyllic walk, running from Ashtown, Co. Dublin all the way to the Shannon. Again, it can be easily split into sections where you can return to your starting point by public transport. The surrounding area features Co. Kildare's countryside at its very best.

Managed for amenity and conservation.

Facilities include parking, walking / tow path.

Further information: kildareheritage.com/the-blueways-walking-routes/



WHAT YOU CAN DO TO HELP WETLANDS IN KILDARE

REMEMBER

WETLANDS = WATER WETLANDS = WILDLIFE WETLANDS = FLOOD CONTROL WETLANDS = CARBON STORAGE AND CLIMATE CHANGE MITIGATION WETLANDS = AMENITY AND RECREATIONAL OPEN SPACES WETLANDS = ECONOMIC VALUE TO COUNTY KILDARE WETLANDS = WINTER AND SUMMER COLOUR IN OUR COUNTRYSIDE WETLANDS = LIFE



LEARN MORE ABOUT WETLANDS

Learn more about wetlands, their wildlife and values by visiting one of the sites suggested in the wetlands to visit section. Remember to pick up all litter and dispose in appropriate waste bins or take it home with you.

STOP THE SPREAD OF INVASIVES

A threat to many wetlands is the negative effect of invasive species (plants or animals) on biodiversity. The Giant Hogweed (Heracleum mantegazzianum), Japanese Knotweed (Fallopia japonica), Himalayan Balsam (Impatiens balsamifera) and Australian Swamp Stonecrop (Crassula helmsii) are among the worst flora culprits. If they establish in a wetland they can cause health risks and affect the occurrence of native wetland plants which tend to be crowded out. Similarly, invasive fauna such as the Zebra mussel can alter the ecology of lakes, affecting angling.

Make sure to take precautions and do not help the spread invasive species. Report the occurrence of these species to the County Council or the National Biodiversity Data Centre. Join with a local group that are trying to eradicate a species from an area.

ORGANISE A WETLAND CLEAN-UP OR HELP ON A WETLAND RESTORATION WORKCAMP

Participate in or organise a clean-up event of your local wetland and coordinate with other volunteers to help a save or restore a wetland habitat. Contact your local authority, community groups, tidy towns group, environmental organizations or a nongovernment organization that may know of events near you.

PREVENT WETLAND INFILLING

Infilling areas of wetland, even pieces of wetland on the edge of a large site has negative impacts on the whole site and the functions it performs. Infilling can cause flooding in other places which have never previously flooded, due to a loss in water absorption capacity of the damaged wetland.

Infilling directly removes wildlife habitat for plants, insects, butterflies, dragonflies and birds. It is unsightly and destroys the natural character and beauty of an area.

Infilling requires a waste permit from the Local Authority. Take measures to ensure your construction and demolition waste is going to a permitted site. Or better still try to re-use C&D waste and all subsoil on site as part of your development.



PREVENT WETLAND DUMPING

Dumping domestic waste and other waste in wetlands can affect water quality and result in surface water and groundwater pollution. Dumping is unsightly and illegal, and shows that we have no respect for our environment. Report any illegal dumping you see to Kildare County Council.



CREATE YOUR OWN RURAL OR URBAN WETLAND

Creating a small wetland in your garden or on the farm is very simple, even when there are no natural wet spots. It's a way to attract much more wildlife into your garden or onto your land. There are lots of websites that can help you find the ideal design for your conditions. Plant only native species of trees, shrubs, and flowers to preserve the ecological balance of your wetland.



A female Beautiful Demoiselle damselfly, showing the signature dark brown wings with white wing spot. Damselflies are a group associated with slow flowing streams and open water wetlands.

MAGHI

TITUT

STREET, STREET

AN THERE WELLEN

NG PTTTTT

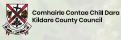
Kildare's Wetland play a vital role in our lives as a natural asset benefitting everyone. This booklet aims to raise awareness and improve understanding of the value of our wetlands and their biodiversity.

This booklet has been produced by the Heritage Office, Kildare County Council, with the financial assistance of the Department of Housing, Local Government and Heritage and Kildare County Council. This aim of this book is to raise awareness of Kildare's heritage, in accordance with the objectives of the County Kildare Heritage Plan 2019-2025.

Citation: Kildare County Council (2022) County Kildare's Wonderful Wetlands. Published by Kildare County Council.

Edited by: Dr. Peter Foss and Bridget Loughlin. Thanks to the following for allowing use their photography in the booklet: Peter Foss, Patrick Crushell, Lullymore Heritage & Discovery Park, Catherine O'Connell and Neil Rourke.

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An Roinn Tithíochta, Rialtais Áitiúil agus Oidhreac Department of Housing, Local Government and Herita

Cover Photographs (Peter Foss): Ballynafagh Bog (Main Image); LHS top to bottom: Ragged Robin, Cranberry flowers, Brimstone Butterfly & Coot with Chicks