Botanical Reports from Four Medieval Castles in Ireland

'Sowing Seeds'

by Dr Fiona MacGowan

August 2021

Milk thistle *(Silybum marianum)* at Castleroche, Co. Louth

Contents

Tables of Figures

Tables

Project background

"Sowing Seeds of Interdisciplinary Work', the project funded by the Castle Studies Trust investigates relict plants at medieval castles. Relict plant studies involve the examination of modern landscapes for the presence of plants that may have been deliberately planted and cared for by people in the past. Former Director of the National Botanic Gardens, Dr Donall Synott wrote a paper in 1979 describing plants he had recorded at many castle sites around Ireland (1979, 37-43). He compiled a list (see Table 1 below) of ten 'medicinal or culinary herbs which are found with striking regularity about old Norman castles and abbeys…."*it seems not unreasonable to suggest that many of these species were originally introduced by the Normans or at least their culinary or medicinal use was begun in Ireland by the Normans*" (Synnott 1979, 38). Building on this idea of relict plants at castles, four ecological surveys were carried out at selected medieval castles sites: Adare. Co. Limerick, Castleroche, Co. Louth, Carbury, Co. Kildare and Castlecarra, Co. Mayo.

Table 1 List of ten plant species noteworthy for their repeated occurrence at Norman buildings around Ireland according to Synnott (1979).

Common name	**Scientific name**
Milk thistle	*Silybum marianum*
Hemlock	*Conium maculatum*
Mallow	*Malva sylvestris*
Henbane	*Hyosycamus niger*
Pellitory-of-the-wall	*Parietaria officinalis*
Annual nettle	*Urtica urens*
Broad-winged thistle	*Carduus acanthoides*
Slender thistle	*Carduus tenuiflorus*
Black horehound	*Ballota nigra*
Good King Henry	*Blitum bonus-henricus*

Survey methodology

The four castle sites, and their associated buildings or landscapes were surveyed in mid-2020 during the very wet months of June and July after a hot May (Table 2).

All of the castles are situated on working farms or fields that were active as pastureland. Each part of the landscapes is categorised according to Fossitt 2000 Habitat survey and description guide. This guide provides a standard scheme for

describing habitats in Ireland so that all descriptions and data is consistent or complementary beyond individual reports. This consistency in the work of habitat classification is recognised as following best practice.

Surveys were carried out by fieldwalking and identification of flowering plants on site. A field notebook was used to keep track of plant identification and photos taken to be verified later if necessary. Plants presence or absence was noted and whether they were widespread or rare on site.

Plants are recorded and reported to the Botanical Society of Britain and Ireland if appropriate, meaning that this project also contributes to botanical data and acts as a baseline for future research.

Table 2 Botanical Survey Details and Dates

Name	**Dates**	**Survey Area hectares**	**Weather**	**Occupation Date Range of castle**
Adare Castle and Church	29.06.2020	2.2	Raining	12th-15th centuries
Castlecarra and Burriscarra	07.07.2020	3.5	Sunny	13th – 17th/18th centuries
Carbury Castle and Church	04.07.2020	8.5	Humid	12th – 17th/18th centuries
Castleroche	23.06.2020	4.1	Raining	12th-15th centuries

Adare Castle

Adare Castle, botanical & habitat

Area around the Castle buildings (Scattered trees and parkland (WD5))

In Adare Castle's long history, it has had several owners and in recent centuries it has formed part of a romantic landscape as part of the greater Adare Manor Estate (Figure 1 and see Table 3 for plant list). Much of that landscape and its trees are now part of the Adare Manor Golf Club which is adjacent to the castle. The remainder of that parkland landscape is retained to the front of the castle on its western side. This area is currently managed as a lawn interspersed with mature Holm oak trees (*Quercus ilex*). These are evergreen trees native to the Mediterranean region and have been planted in many landed estates around Ireland since the 17th century. They are typically found in large gardens and parkland situations in Ireland and they are always deliberate introductions by people. Unlike Sycamore (*Acer pseudoplatanus*), another introduced tree present at Adare castle, they have not naturalised in Ireland i.e. they don't spread and self-seed easily. Sycamore however, was introduced into Ireland in the early 1600s and it has since spread throughout the island. Nowadays it is a common component of hedges and woodlands (Parnell and Curtis 2012). Sycamore wood was quickly adopted for use in Ireland and indeed the famous O'Carolan Harp of the late 17th century features Sycamore wood (Wyse Jackson 2014). The native small tree species, Holly (*Ilex aquifolium*), typically a woodland understorey species is also present at Adare Castle.

Figure 1 View of Adare Castle from the nearby Old St Nicholas Church looking across Adare Golf Club

The River Maigue (Lowland river (FW2))

The Maigue river runs along the southern side of the castle, and abuts its walls for c. 80m (Figure 2).

Figure 2 View of Adare Castle from Adare bridge across the river Maigue

The stretch of the riverbank from the castle to the Adare bridge is vegetated featuring grasses and plants typical of waterside situations such as Wild angelica (*Angelica sylvestris*) (Figure 3). This native plant was widely used medicinally across Europe (Wyse Jackson 2014,180). Another plant recorded along this bank was Weld (*Reseda luteola*) (Figure 4). It is considered a probable archaeophyte in Ireland as it has long been on record as being used for dyeing textiles yellow and is generally found in the vicinity of places of human habitation either now or in the past.

Figure 3 The broad white umbellifer flowers of Wild angelica on the banks of the River Maigue beside Adare Castle, facing south

Figure 4 Yellow spires of Weld, on the banks of the River Maigue, facing east with Adare Castle in the background

The noxious invasive species Giant hogweed (*Hieraceum sphondyllium*) was also recorded on the river bank adjacent to the castle. This plant was introduced to Ireland in the 19th century as an impressive addition to large gardens. It has proved to be very dangerous and unfortunately it will result in severe allergic skin reactions to any person who touches it. It is typically found growing near watercourses as its seeds are naturally dispersed along waterways.

It is worth noting here that north of the Adare bridge, the Maigue River is a designated Special Area of Conservation (SAC) because it features habitats and species that are protected under the E. U. Habitats Directive. This important designation means that the river is protected from any negative impacts under European Law because the special habitats and species it hosts are rare and threatened in a European and often world-wide context.

Amenity grassland (GA2)

Inside the castle walls there is a large area of grass that is kept short. This features typical species such as Perennial rye grass (*Lolium perenne*), Daisies (*Bellis perennis*) and Dandelions (*Taraxacum officinale* agg.). When a lawn is tightly mowed , it becomes biodiversity-poor because mowing, like grazing, favours the grass species whose growth points are low on the plant. In contrast, the growth points of most flowering plants are high up and therefore are removed by the mowing process, leading to their eventual disappearance from the lawn. The most interesting feature of this space is the presence of two old Yew trees (*Taxus baccata*) (Figure 5); a further two are located within the inner ward. A native species to Ireland, old Yew trees are notoriously difficult to age: they are very slow growing and counting trees rings as the inner part of the trunk naturally rots as they age is not possible.

Figure 5 Two Yew trees in the lawn area of the outer ward of Adare Castle, facing north-east

Figure 6 Yew tree in the Inner ward, facing west

The Yew trees at Adare Castle are at least 200 years old but it is possible that they could be as much as 500 years old. Yews have long been venerated in Ireland and are traditionally associated with churches and graveyards. Their foliage is famously poisonous to livestock and it is thought that their presence in graveyards was to ward off any potential grave robbers of the faunal variety! One of Ireland's most celebrated Yew trees is located in Co. Kerry at Muckross Abbey in Killarney. The local tradition is that this Yew tree was brought as a sapling from Inisfallen, a holy island on nearby Lough Leane and planted to mark the foundation of the Franciscan friary of Irrelagh (now known as Muckross Abbey), sometime between 1340 and 1448. (Fennell 2013). Inisfallen has a long association with Christianity, with remains dating from at least the 7th century. This link from an old holy site to a new foundation by a sapling Yew indicated that the species was an important tree in medieval Ireland (Fennell 2013) and perhaps these trees are either relicts of Adare Castle's medieval past or quite possibly progeny of Yews that grew here when the castle was in its prime.

Prior to our visit, it was hoped that the inner ward area of the castle might show signs of previous use as a private garden for the castle residents. Apart from two of the Yew trees discussed above, however, it features little else as it shows sign of persistent herbicide use with only mosses, liverworts and algae surviving (Figure 6). Herbicide only works on those groups of plants with more advanced physiologies (known as the 'higher plants') so mosses and algae which belong to the 'lower' orders are not killed or inhibited by it.

Adare Castle Moat (Drainage ditch (FW4))

Another important feature from Adare Castle bailey is the moat which completely encircles the inner ward. This is a man-made feature which channels water from the nearby Maigue river (Figure 8). On the day of the survey there was little open water visible but the vegetation indicated that freshwater does regularly run through it. The banks of the moat have clearly been continuously sprayed with herbicide over a number of years as testified by the brown colour of algal and moss growth on the upper banks (Figure 7).

Figure 8 Inlet point of moat surrounding inner ward, facing east.

Figure 7 Vegetation-filled moat with brown, herbicide-sprayed banks visible, facing east.

Despite the poor biodiversity of the banks, the base of the moat was species-rich. Plants recorded in the drain/moat included Wild valerian (*Valeriana officinalis*), Water plantain (*Alisma plantago-aquatica*), Great willowherb (*Epilobium hirsutum*); Bulrush (Reedmace) (*Typha latifolia*); Giant fescue (*Festuca arundinacea*), Marsh ragwort (*Senecio aquaticus*); Lesser water-parsnip (*Berula erecta*); Watercress (*Nasturtium officinale*); Greater pond sedge (*Carex riparia*). All of these native plants would likely have grown here when the castle was occupied during the medieval period.

Figure 10 Wild Valerian

Figure 9 Marsh ragwort

Many of these would have had medicinal and culinary uses in the past and several were well known for various wider domestic uses e.g. Bulrush has been used for thatching, for making a type of flour and for curing toothache! (Wyse Jackson 2014). Watercress is a well-known food, still collected and sold in some greengrocers today. Wild valerian (Figure 10) is a pretty plant of wet, grassy places that had many uses in Ireland in the past including being used as a sedative and drunk as a tea (Wyse Jackson 2014). Marsh ragwort (Figure 9) was formerly used in a poultice to treat wounds in humans (Wyse Jackson 2014) but apparently it was also used to treat ailments in animals (Allen & Hatfield 2004).

At the edges of the moat, where it is a little drier, other species such as Nettles (*Urtica dioica*); Purple loosestrife (*Lythrum salicaria*) and Hedge bindweed (*Calystegia sepium*) were recorded. These plants are all native species and are commonly found at the drier edges of this type of wet grassland habitat.

Castle walls (Stone walls BL1)

Plant species noted on the castle walls at Adare are common to masonry walls across Ireland more generally: Herb Robert (*Geranium robertianum*); Rue-leaved saxifrage (*Saxifraga tridactylites*); Common polypody fern (*Polypodium vulgare*); Black spleenwort (*Asplenium adiantum-nigrum*) and Red valerian (*Centranthus ruber*). These plants typically grow on walls of all kinds, not just old buildings. According to Mabey (1996), the latter species Red valerian was introduced as a garden plant from the Mediterranean region by 1600 in England and therefore was likely introduced to Ireland shortly afterwards. It has since naturalised so well here that it is invasive in some parts of the country.

Figure 11 A single specimen of Pellitory-of-the-wall on the gatehouse at Adare Castle.

A small number of Pellitory-of-the-wall (*Parietaria judaica*) plants were recorded on the walls of the chamber in the inner ward and just one plant was noted on the gatehouse (Figure 11). This species is commonly found on old castle, tower house and abbey walls throughout Ireland but not so often in other habitat types so it can be confidently linked to the earlier life of the castle. It was known for many different medicinal uses in medieval times particularly as a purging plant used for all sorts of ailments including chest, urinary and skin problems. It was also used in poultice and cream form to treat different types of health problems.

The most noticeable plant growing on the walls of the castle was a yellow flowered plant from the daisy family. The plant was pointed out by Adare castle staff during our visit. Stonemasons working on the conservation of the castle walls during our survey commented on the yellow flowers they noticed on the walls. The plant was identified as Bank hawkweed (*Hieracium neosparsum*). Research has shown that this plant is not native to Ireland – it is termed an 'alien' plant first recorded in Co. Limerick in the 1980's (Reynolds 2013). Reynolds (County Limerick's botanical recorder) notes that this relatively recent introduction to the county is particularly abundant on walls around Adare.

Figure 13 Bank hawkweed

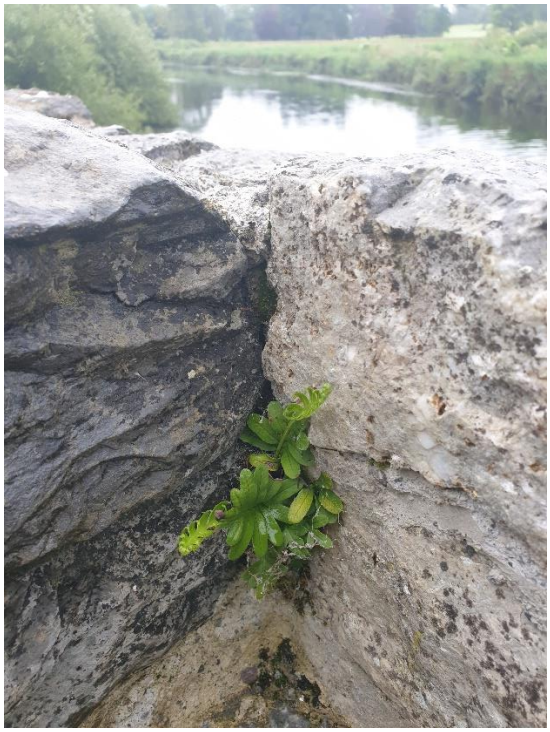


Figure 12 Polypody fern

In comparison to the case-study sites within 'Sowing Seeds' as well as other castles visited as part of my wider ecological work there were surprisingly few plants (less than 10 individuals) noted on the extensive walls of Adare Castle. This is unusual for such an old structure; and it indicates that the walls have been regularly cleared of vegetation over the years (e.g. Figure 12 see clean walls with a long polypody fern).

Nearby Old St Nicholas Church buildings

In view of the clearance work on the walls of Adare Castle and the maintenance of the outer ward as a lawn, fieldwork was carried out at Old St Nicholas Church ruins in the golf course just 60m north-east of the castle complex (Figure 14). This building and graveyard are managed differently to the castle at present and several different species were recorded on the walls here. Signs in the graveyard, however, did show that herbicide has been used there in the past. In the context of this survey, it was believed that the Old St Nicholas Church buildings may host similar plants to those species that would have been found on the Adare Castle walls prior to cleaning owing to the similar date and building materials of the church and castle buildings.

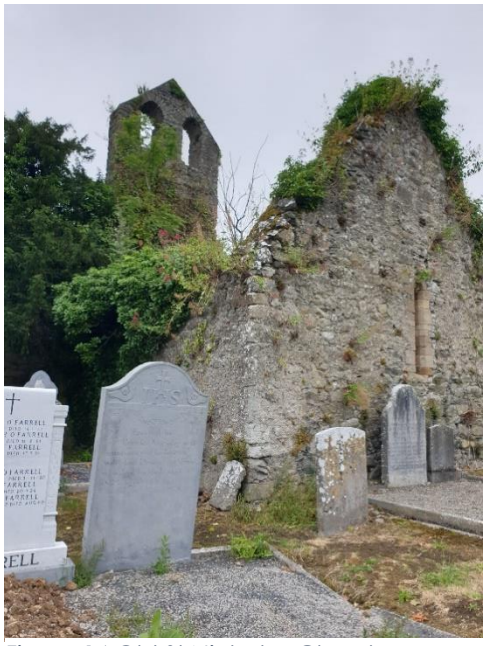


Figure 14 Old St Nicholas Church featuring Ivy and Red valerian flowers

However, the field work in the church and graveyard only resulted in three further species being noted on the walls: Ivy (*Hedera helix*); Great mullein (*Verbascum thapsus*) and Pheasantberry (*Leycesteria formosa*). This result may reflect the herbicide use here in the past too but it is difficult to determine if that is the reason without previous survey results for comparison. Pheasantberry is an invasive species, native to the Himalayas, an escapee from landed estates where it was planted as food and cover for pheasants (Figure 15). Great mullein is a native Irish plant that had many medicinal uses in times past (see Castleroche section).

Figure 15 Pink and white flowers of Pheasantberry

Concluding comments to the Adare Castle botanical survey

While is was initially believed the Adare's habitat (Figure 16) might lend itself to diverse plants, the results of the botanical survey were disappointing. There was lower plant species diversity than anticipated when compared to other castle sites. Only one of Synnott's 1979 list of ten species was recorded at Adare: Pellitory-of-the-wall. This result reflects the management regime of the site in recent decades with both physical and chemical means used to clear vegetation. It is possible that these actions have eradicated several plant species from the castle complex which could have helped inform us about the everyday lives of the castle's occupants in the past.

Adare Castle Habitat map

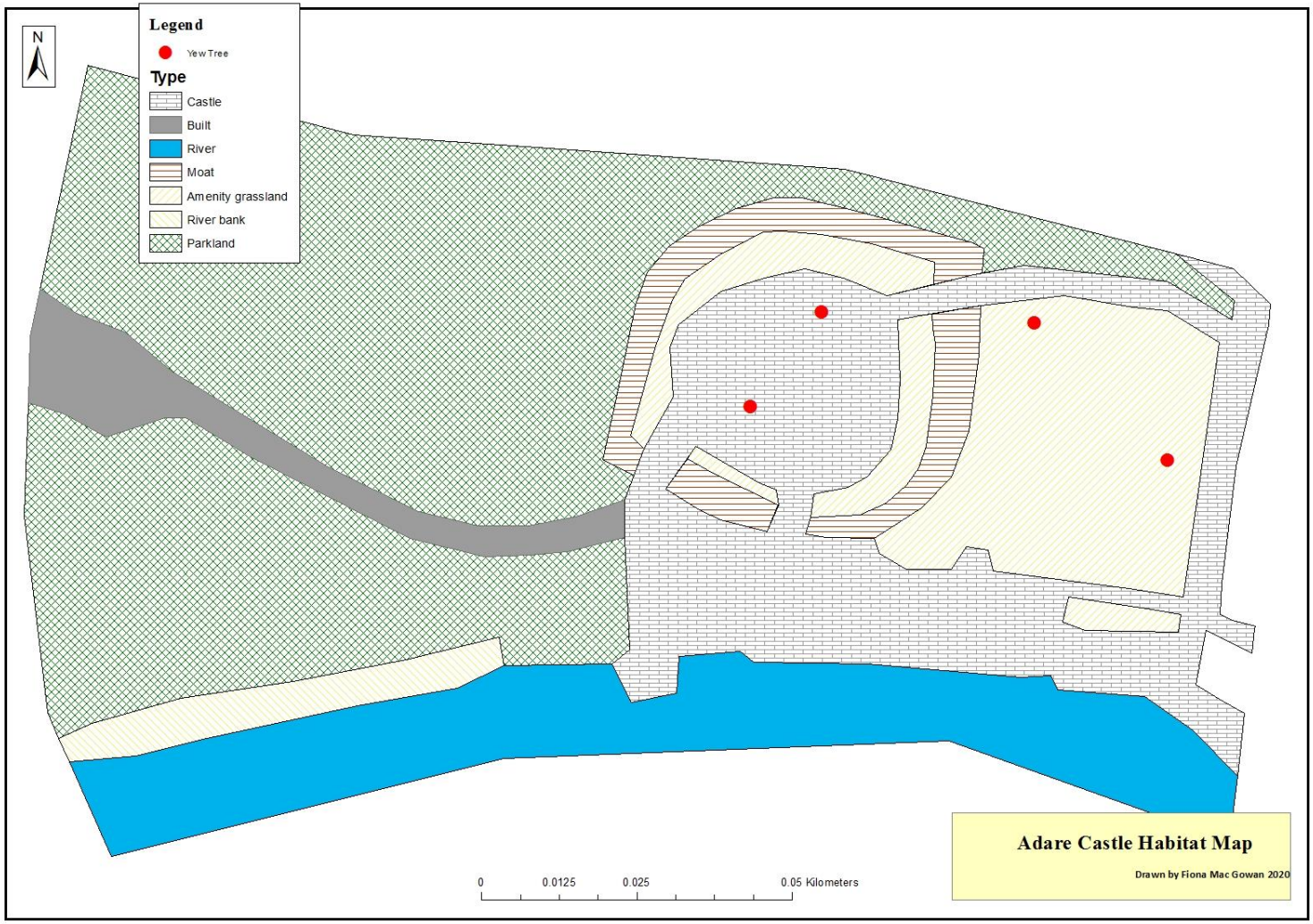


Figure 16 Adare Castle Habitat Map

Adare Plant List

Table 3 Plants recorded on and in the vicinity of Adare Castle, with common uses as described in Wyse Jackson (2014).

Common name	Scientific name	Native/ Archaeophyte/ Neophyte	Occurrence at Adare Castle site	Irish distribution within its natural habitats	Common Use
Sycamore	*Acer pseudoplatanus*	Neophyte	Common	Common	17th Century introduction. Its wood used for utensils, furniture & musical instrument making.
Black spleenwort	*Asplenium adiantum-nigrum*	Native	Limited	Common	Long history of use to treat skin complaints
Water plantain	*Alisma plantago-aquatica*	Native	Limited	Limited	A few medicinal uses but poisonous unless cooked.
Wild angelica	*Angelica sylvestris*	Native	Limited	Common	Long & widely used for many culinary & medicinal purposes
Daisy	*Bellis perennis*	Native	Common	Common	Widely used for many medicinal purposes in the past
Lesser water-parsnip	*Berula erecta*	Native	Limited	Limited	No recorded uses
Red valerian	*Centranthus ruber*	Neophyte	Common	Common	Edible
Spear thistle	*Cirsium vulgare*	Native	Common	Common	Many medicinal & veterinary uses
Hedge bindweed	*Calystegia sepium*	Native	Common	Common	Limited medical use recorded
Greater pond sedge	*Carex riparia*	Native	Common	Common	No recorded uses
Great willowherb	*Epilobium hirsutum*	Native	Common	Common	No recorded uses
Giant fescue	*Festuca arundinacea*	Native	Common	Common	No recorded uses
Herb Robert	*Geranium robertianum*	Native	Common	Abundant	A long history of many medicinal uses & as a treatment for 'red water' in cattle.

Common name	Scientific name	Native/ Archaeophyte/ Neophyte	Occurrence at Adare Castle site	Irish distribution within its natural habitats	Common Use
Ivy	*Hedera helix*	Native	Abundant	Abundant	Numerous medical & veterinary uses
Giant hogweed	*Heracleum mantegazzianum*	Neophyte	Rare	Rare	A noxious invasive species
Bank hawkweed	*Hieracium neosparsum*	Neophyte	Limited	Rare	An alien plant, first recorded in Co. Limerick in the 1980s
Pheasantberry (Himalayan honeysuckle)	*Leycesteria formosa*	Neophyte	Rare	Common	Used to provide cover & feed for farmed pheasants
Perennial rye grass	*Lolium perenne*	Native	Abundant	Abundant	An important animal fodder species, it would also have featured in the many uses for hay and straw in the past.
Purple loosestrife	*Lythrum salicaria*	Native	Common	Common	Used medicinally & for dyes
Watercress	*Nasturtium officinale*	Native	Common	Common	Widely used as a food-plant across Ireland in the past. Medicinal & veterinary uses including treatments for heart, kidney & lung troubles.
Pellitory of the wall	*Parietaria judaica*	Native	Limited	Common	Many medicinal uses including as a laxative, a diuretic, a treatment for skin, bladder & menstrual problems
Common polypody fern	*Polypodium vulgare*	Native	Limited	Common	Used as a medicinal snuff!
Holm oak	*Quercus ilex*	Neophyte	Limited	Always planted	Ornamental trees in Ireland
Weld	*Reseda luteola*	Possible archaeophyte	Limited	Limited	Widely used in the past to make yellow dye
Brambles	*Rubus fruticosus*	Native	Common	Abundant	Blackberries, the fruit of the Bramble have always been an

Common name	Scientific name	Native/ Archaeophyte/ Neophyte	Occurrence at Adare Castle site	Irish distribution within its natural habitats	Common Use
					important food in Ireland. All parts of the plant can be used to make different colour dyes. All parts also used for various medicinal uses.
Rue-leaved saxifrage	*Saxifraga tridactylites*	Native	Limited	Limited	No recorded uses
Marsh ragwort	*Senecio aquaticus*	Native	Common	Common	Used medicinally as a poultice. Also recorded as a source of yellow dye
Dandelion	*Taraxacum officinale*	Native	Common	Abundant	A wide variety of culinary, medicinal & veterinary uses
Yew	*Taxus baccata*	Native	Limited	Limited	Long revered as a special tree, many with religious associations. Timber is also valued widely.
Bulrush (Reedmace)	*Typha latifolia*	Native	Common	Common	Has been used for thatching, for making a type of flour and for curing toothache
Nettle	*Urtica dioica*	Native	Common	Abundant	A large variety of culinary & medical uses in addition to other uses.
Wild valerian	*Valeriana officinalis*	Native	Common	Common	Many uses including as a sedative & drunk as a tea
Great mullein	*Verbascum thapsus*	Native	Common	Common	Many medicinal uses including using the leaves to make poultices. Particularly noted for treating coughs.

Carbury Castle

Carbury Castle, botanical & habitat

Carbury Castle has been an imposing presence on the north Kildare landscape for hundreds of years. It dramatically sits atop Carbury Hill (Figure 17) overlooking Carbury Bog in the otherwise flat, north Kildare landscape. The habitats that surround it now give an indication of the history of the castle itself. There are no less than four abandoned limestone quarries within a 250m radius of the castle ruins. These would very likely have been used in the construction of the castle and church complex. The largest is located just 50m west of the castle and it features a sheer escarpment created by years of quarrying. The old quarries and a slope immediately west of the nearby Carbury Hill rath feature some scrub habitat. The main habitats on Carbury Hill surrounding the castle are pasture fields of improved grassland. Most of the field boundaries in the land surrounding the castle are modern timber and barbed wire fences where typically one would expect native hedgerows to add to the habitat diversity of this farmed landscape. Although there are hedgerows bounding the surrounding roads adjacent to the castle complex.

Figure 17 Carbury Castle situated at the top of Carbury Hill.

Area around the castle buildings (Improved grassland (GA1))

The landscape around Carbury Castle is dominated by the pasture fields of improved grassland habitat of a working farm from the 20th and 21st century. Cattle were grazing the fields nearby on the day of survey in early July 2020. Generally, this

habitat is not biodiverse as it is sown and managed for the production of Perennial rye grass (*Lolium perenne*) for the cattle to graze. Commonly occurring herbs of this type of pasture, Creeping thistle (*Cirsium arvense*), Ribwort (*Plantago lanceolata*) and Dandelion (*Taraxacum officinale* agg.). The occasional individual Hawthorn or Whitethorn (*Crataegus monogyna*) tree was also recorded through this grassland habitat. The bare soil under these small trees demonstrates how their shelter and shade is favoured by resting cattle (Figure 18).

Figure 18 Hawthorn tree

Castle ruins and walls (Stone walls & other stonework BL1)

The dominant plant of the ruins of Carbury Castle is Ivy (*Hedera helix*). Ivy is very common across Ireland. Ivy has adapted well to human occupation and has moved out to fill other habitat niches: from growing in hedgerows where the situation is similar to a woodland edge to growing on old walls and houses where it uses the support offered by these structures instead of the trees it would normally use in a wild situation. Ivy is a very important plant for biodiversity in Ireland for several reasons. It is one of only a few plants that flowers in late autumn and berries is winter. This means that it is a crucially important food plant for many species of bird, invertebrate and mammal. Also, its evergreen leaves (a rarity amongst native Irish tree and shrub species) provide important hibernation sites for many invertebrates and sometimes even bat species.

Another species recorded on the castle walls was Pellitory-of-the-wall (*Parietaria judaica*) which typically occurs on historic masonry walls in Ireland. Normally this is recorded in a depauperate state growing on the difficult conditions i.e. dry and exposed that are offered by stone walls. At Carbury Castle, however, the plant was also recorded growing on the ground inside the castle walls (Figure 19). The conditions here were obviously better and the plant was thriving and much larger in size than nearby examples on the walls.

Figure 19 An Elder bush growing inside the castle walls with lush Pellitory-of-the-wall growth in the foreground.

The area inside the castle walls showed evidence that cattle occasionally shelter in this location. Also some other human visitors were noted on the day of survey. However, the human and bovine traffic are not heavy enough to dampen plant growth inside the castle walls and several species were noted here that were not found in habitats in the areas surrounding the castle walls. Two archaeophytes were recorded in the interior of the masonry castle, notably Hemlock (*Conium maculatum*) which features on Synott's 1979 list and Hedge mustard (*Sisymbrium officinale*) which is described by Wyse Jackson (2014) as a probable archaeophyte. Both plants had numerous medicinal uses in the past, the former in particular is highly poisonous (famously causing the death of Socrates), however, it has been used medicinally across Europe for millennia and Ireland is no exception. Table 4 below lists the other plant species recorded within the castle walls at Carbury. While all are species that commonly occur in this kind of habitat in Ireland, they also have documented medicinal or culinary uses and therefore may well represent a link to the domestic life of Carbury Castle in the past.

Table 4 Plants recorded inside the ruins of Carbury Castle and their documented uses according to Wyse Jackson (2014)

Common name	Scientific name	Past uses
Yarrow	*Achillea millefolium*	Long & widely used for many medicinal purposes
Lesser burdock	*Arctium minus*	All parts were eaten; used to flavour beer; many medicinal uses
Spear thistle	*Cirsium vulgare*	Various medical and veterinary uses
Dove's foot cranesbill	*Geranium molle*	No ethnobotanical uses recorded in Ireland
Herb Robert	*Geranium robertianum*	A long history of many medicinal uses & as a treatment for 'red water' in cattle.
Wood avens	*Geum urbanum*	Lots of medicinal uses including the treatment of chills and kidney trouble
Ivy	*Hedera helix*	Numerous medical & veterinary uses
Hogweed	*Heracleum sphondyllium*	Edible but main uses appear to have been as cattle feed
Common sorrel	*Rumex acetosa*	Extensively eaten, also used to treat various bleeding ailments and used to make a red dye.
Elder	*Sambusus nigra*	An infinite number of culinary, medicinal and veterinary uses for centuries throughout Europe.
White stonecrop	*Sedum album*	A recent introduction with no known uses in Ireland
White clover	*Trifolium repens*	Long eaten cooked as vegetable
Nettles	*Urtica dioica*	A large variety of culinary & medical uses in addition to other uses.
Germander speedwell	*Veronica chamaedrys*	Used to treat jaundice and drunk as a tea.

Quarry area (Exposed calcareous rock ER2))

The largest of the disused quarries in the vicinity of the castle at Carbury was surveyed for its plants. It is located to the west of the castle complex. The floor of the quarry is grazed by cattle and features the same plants as those recorded in the nearby pastures. It was thought that the vertical stone cliffs of the old quarry face might feature a few more plant species than those recorded at the castle ruins due to a lack of grazing accessibility (Figure 20). The only extra species noted was Lady's bedstraw (*Galium verum*). It was also noted that Ribwort (*Plantago lanceolata*), which occurred sporadically in the pasture, was remarkably abundant at the quarry. Both are common species in grassland situations, the former favouring dry banks and grassy areas. Both species have many known uses in the past in Ireland.

Lady's bedstraw was used as a rennet in the cheese making process as well as a cure for burns and nosebleeds. Interestingly different parts of the plant were used to make either a grey or a red dye. The Irish name for Ribwort is *Slánlus* which translates to 'the herb of health'. This tells us of the myriad of uses it had in past times in Ireland including treatment for cuts, bruises, warts, pimples and gout. The flower heads can also be used to make a flour.

Figure 20 The steep limestone cliffs of the disused quarry immediately northwest of the castle.

The bank of ground between the surveyed quarry and the castle ruins feature some beautiful large Ash trees (*Fraxinus excelsior*). The gnarled roots are easily visible intertwining with the rocks underneath (Figure 21). The trees themselves are likely approximately 100-150 years old but Ash is the dominant species of tree in the landscape around Carbury and no doubt this was the same when the castle was lived in.

Figure 21 Large Ash trees between the castle ruins and the entrance to the quarry. The gnarled, old roots are clearly visible amongst the stones.

Graveyard (Dry meadows & grassy verges GS2)

Figure 22 The Colley Mausoleum with Carbury Castle ruins in the background

A late medieval parish church and graveyard lies just 100m east of the castle ruins on Carbury Hill (Figure 22). The graveyard was surveyed in order to provide a comparative site to the castle in addition to expanding the plant species list for the wider castle complex. The graveyard appears to be managed with biodiversity in mind with short grass paths mown through tall grass areas to allow visitor access (Figure 23). The dominant features of this walled graveyard are the ruins of the medieval church and a large mausoleum for the Colley family who were responsible for building parts of the current Carbury Castle in the 16th and 17th centuries. Plant species identified here but not seen at the castle are: Selfheal (*Prunella vulgaris*); Meadow vetchling (*Lathyrus pratensis*) and Smooth sowthistle (*Sonchus oleraceus*). All three species are very common in such meadow situations across Ireland. Sowthistle was widely cooked as a vegetable like spinach, Meadow vetchling has no recorded uses but Selfheal was used for many different medicinal uses as is suggested by its name.

Figure 23 Mown grass paths at the old graveyard

Roadsides (Dry meadows & grassy verges GS2)

The roadside hedgerows that bound the field in which Carbury Castle is located were also surveyed. They revealed further species that could hint at some aspects of domestic life in medieval Carbury.

Figure 24 Hedge woundwort (Stachys sylvatica)

Hedge woundwort (*Stachys sylvatica*) (Figure 24) was growing prolifically along the hedgerow and as its name suggests this plant was (and is still) used to help heal wounds. Comfrey (*Symphytum officinale*) (Figure 25) was also recorded here and this is an interesting species as there is speculation that it's a possible archaeophyte i.e. its long history of usage in Ireland and across Europe and western Asia means that botanists are not sure if it was introduced to Ireland a long time ago or if it was always a native plant. One of its Irish names is *Lus na gcnámh briste* (herb of the broken bones) which plainly states one of its most popular uses. Comfrey root was made into a paste which was pasted on a broken limb where it hardened to form a cast to help set broken bones. It was and is still used for a myriad of other medical and veterinary uses including treatment of cuts, wounds, rheumatism, burns and even cosmetically as a skin treatment. The author grows Comfrey to use as a plant fertilizer in her own garden. This remains, a popular use of the plant in Ireland today.

Figure 25 Comfrey (Symphytum officinale

Ribwort and Hogweed were very prominent along the roadside at Carbury. Both are common plants in these habitats but both also have many documented uses in the past as part of medicinal and dietary concerns. Another plant noted along here was Meadowsweet (*Filipendula ulmaria*), a beautiful plant with creamy, fragrant flower heads from July through to September. It is common in damp, grassy habitats in Ireland and it has been and is still used for many medicinal and culinary uses. All parts of the plant can be used as a vegetable but it is most well known as a cure for headaches as it contains salicylate which is a key ingredient of aspirin. The dried leaves have long been used as a sweetener and the sweet smell of the plant meant it was often used on floors as a form of air-

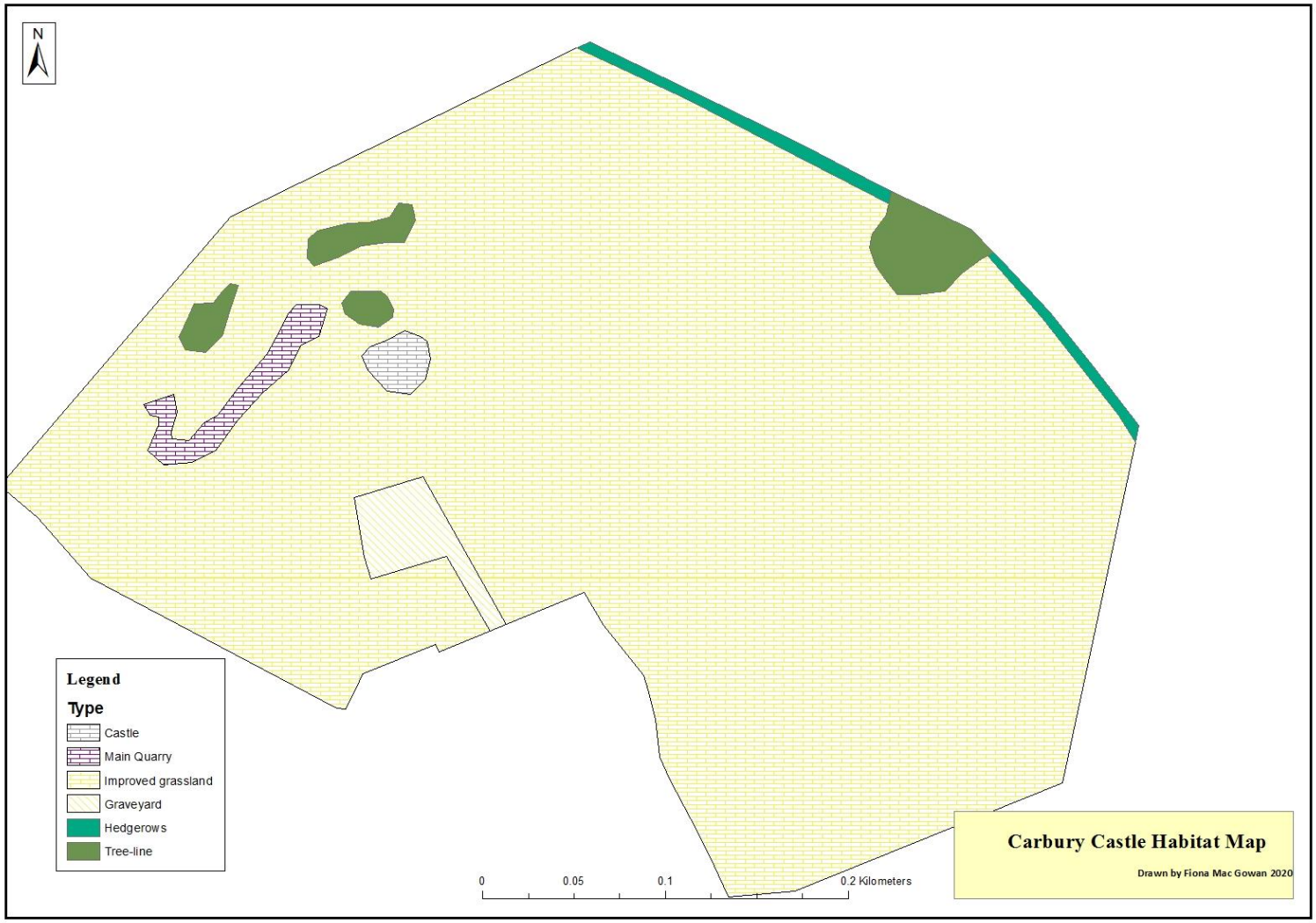
freshener! Ragwort (*Senecio vulgaris*) was noted on the roadside and while this is best known as a noxious weed poisonous to cattle and horses, it was actually known for many medicinal and veterinary uses in the past including coughs, colds, rheumatism, jaundice, cuts and sores.

Concluding comments to the Carbury Castle botanical survey

The Carbury Castle complex is part of an active farm which means that there are ongoing activities in the area which have likely impacted upon the site's floral diversity (Figure 26). Cattle moving in and around the castle ruins will impact through grazing, poaching and fertilising. This is a different type of disturbance to that seen at Adare Castle but a similar result with two species from Synnott's list, Pellitory-of-the-wall and Hemlock, being recorded at Carbury Castle is interesting. It certainly highlights the tenacity of Pellitory-of-the-wall. A total of two archaeophyte species were recorded from the castle itself (Table 5). In addition to Hemlock, Hedge mustard was also recorded within the interior of the castle. Carbury was the only place where this latter species was recorded during this study.

Carbury Castle Habitat map

Figure 26 Carbury Habitat Map



Carbury Plant List

Table 5 List of all plants recorded on and in the vicinity of Carbury Castle, with common uses as described in Wyse Jackson (2014).

Common name	Scientific name	Native/Archaeophyte/Neophyte	Occurrence at Carbury Castle site	Irish distribution within its natural habitats	Common Use
Yarrow	*Achillea millefolium*	Native	Widespread	Common	Long & widely used for many medicinal purposes
Lesser burdock	*Arctium minus*	Native	Limited	Common	All parts were eaten; used to flavour beer; many medicinal uses
Creeping thistle	*Cirsium arvense*	Native	Common	Common	Many medicinal & veterinary uses
Spear thistle	*Cirsium vulgare*	Native	Common	Common	Many medicinal & veterinary uses
Hemlock	*Conium maculatum*	Archaeophyte	Limited	Limited	Particularly associated with castles in Ireland (Parnell & Curtis 2012)
Hawthorn	*Crataegus monogyna*	Native	Common	Abundant	Many culinary, medicinal & veterinary uses as well as featuring large as sacred 'Fairy trees' with a tradition going back to pre-Christian Ireland.
Meadowsweet	*Filipendula ulmaria*	Native	Limited	Common	A plant well known for its medicinal uses
Ash	*Fraxinus excelsior*	Native	Common	Common	Many uses, the wood widely used but was also an important medicinal plant with all parts used to treat ailments such

Common name	Scientific name	Native/Archaeophyte/Neophyte	Occurrence at Carbury Castle site	Irish distribution within its natural habitats	Common Use
					as rheumatism, heartburn, warts, burns & many more.
Ladies bedstraw	*Galium verum*	Native	Common	Common	Used as rennet to curdle milk & a dye plant
Dove's foot cranesbill	*Geranium molle*	Native	Limited	Limited	No recorded uses
Herb Robert	*Geranium robertianum*	Native	Common	Abundant	A long history of many medicinal uses & as a treatment for 'red water' in cattle.
Wood avens	*Geum urbanum*	Native	Common	Common	Lots of medicinal uses including the treatment of chills and kidney trouble
Ivy	*Hedera helix*	Native	Abundant	Abundant	Numerous medical & veterinary uses
Hogweed	*Heracleum sphondyllium*	Native	Common	Abundant	Edible but main uses appear to have been as cattle feed
Meadow vetchling	*Lathyrus pratensis*	Native	Limited	Common	No recorded uses
Perennial rye grass	*Lolium perenne*	Native	Abundant	Abundant	An important animal fodder species, it would also have featured in the many uses for hay and straw in the past.
Pellitory of the wall	*Parietaria judaica*	Native	Common	Common	Many medicinal uses including as a laxative, a diuretic, a treatment for skin, bladder & menstrual problems

Common name	**Scientific name**	**Native/Archaeophyte/Neophyte**	**Occurrence at Carbury Castle site**	**Irish distribution within its natural habitats**	**Common Use**
Ribwort	*Plantago lanceolata*	Native	Common	Common	Several medicinal & veterinary uses
Selfheal	*Prunella vulgaris*	Native	Common	Common	An important & widely used medicinal herb for treating respiratory, heart and skin problems amongst many others.
Dog rose	*Rosa canina agg.*	Native	Common	Common	Rosehips widely used in Ireland to make syrup, jams, jellies & wine. Medicinally they were used to treat many ailments. Shoots are used in basketry.
Brambles	*Rubus fruticosus*	Native	Common	Abundant	Blackberries, the fruit of the Bramble have always been an important food in Ireland. All parts of the plant can be used to make different colour dyes. All parts also used for various medicinal uses.
Common sorrel	*Rumex acetosa*	Native	Common	Common	Extensively eaten, also used to treat various bleeding ailments and used to make a red dye.
Elder	*Sambucus nigra*	Native	Common	Common	An infinite number of culinary, medicinal and veterinary uses for centuries throughout Europe.

Common name	**Scientific name**	**Native/Archaeophyte/Neophyte**	**Occurrence at Carbury Castle site**	**Irish distribution within its natural habitats**	**Common Use**
White stonecrop	*Sedum album*	Neophyte	Limited	Common	A recent introduction with no known uses in Ireland
Ragwort	*Senecio vulgaris*	Native	Limited	Common	Widespread veterinary & medicinal uses
Hedge mustard	*Sisymbrium officinale*	Archaeophyte	Limited	Common	Various medicinal & culinary uses
Smooth sowthistle	*Sonchus oleraceus*	Native	Common	Common	Leaves cooked as a vegetable
Hedge woundwort	*Stachys sylvatica*	Native	Common	Common	Leaves traditionally used as vegetable
Comfrey	*Symphytum officinale*	Possible archaeophyte	Limited	Common	Widespread veterinary & medicinal uses.
Dandelion	*Taraxacum officinale*	Native	Common	Abundant	A wide variety of culinary, medicinal & veterinary uses
White clover	*Trifolium repens*	Native	Common	Abundant	Long eaten cooked as vegetable
Nettle	*Urtica dioica*	Native	Common	Abundant	A large variety of culinary & medical uses in addition to other uses.

Common name	Scientific name	Native/Archaeophyte/Neophyte	Occurrence at Carbury Castle site	Irish distribution within its natural habitats	Common Use
Germander speedwell	*Veronica chamaedrys*	Native	Common	Abundant	Also used to treat coughs and as a treatment for sore breasts by nursing women.

Castlecarra, Co. Mayo

Castlecarra, botanical & habitat

Castlecarra is situated on a promontory that juts into the mid-eastern edge of the northern lobe of Lough Carra in Co. Mayo. Lough Carra itself has long been celebrated by naturalists as it is one of the best examples in Ireland of a hard water marl lake. The lake is shallow and fed by calcium-rich springs and streams resulting in calcareous encrustations which give it its distinctive pellucid green colour (Figure 27). This distinctive geomorphology leads to Lough Carra hosting a variety of habitats and species not commonly found in Ireland. For this reason the lake and its surrounds have been designated under the E.U. Habitats Directive as a Special Area of Conservation (Lough Carra/Mask Complex SAC 001774). The Castlecarra complex and its surrounding lands form part of this SAC. Lough Carra is also designated as a Special Protection Area (Lough Carra SPA 004051) under the E.U. Birds Directive for the protection of a nationally important population of Common Gulls. This SPA designation covers the lake area only and therefore does not include the castle complex of Castlecarra. A simple habitat map of the area visited features the extent of the habitats and the SAC and SPA (Figure 28). A number of tables are noted throughout the chapter and the total plant list is provided at the end of the Castlecarra section featuring a complete list of plant species recorded during our visit to Castlecarra and its environs.

Figure 27 View westwards towards the promontory that features the ruins of Castlecarra on the north-eastern shores of Lough Carra with the distinctive pellucid green colour of the lake is visible in the middle ground.

Castlecarra Habitat map

Figure 28 Castlecarra Habitat map

Area around the castle buildings (Broadleaved woodland (WD1) & Scrub (WS1))

Figure 29 Ruined out-buildings of Castle Park at Castlecarra

The lands immediately around Castlecarra are very interesting as they feature the ruined remains of the house (Figure 29) and gardens of a 17th century estate known as Castle Park. Many beautiful mature trees of uncertain date (Figure 30) feature in what remains of the Castle Park gardens (Table 6). The area is now part of a local farm and livestock roam through the woodland and scrub that has developed at the site.

The most impressive trees are a number of large, old Hornbeams (*Carpinus betulus*) (Figure 30). These were clearly planted along the entrance avenue which was designed to open out, as it reached the house, into a semi-circular-shaped forecourt. This layout is visible on the 19th century Ordnance Survey maps. The semi-circle was demarcated by a wall which, at present, is in a state of semi-collapse. Fascinatingly, however, the remains of the wall are being held up by the branches of some of these Hornbeams in some places, whereas in others the Hornbeam trees have caused the wall to collapse (Figure 31). Hornbeams are native to mainland Europe and the southeast of Britain, but unlike some other species, they did not reach Ireland before the end of the last ice-age. The same is true for a few other tree species including Beech (*Fagus sylvatica*), a species that does so well in Ireland, many think of them as nearly native. Indeed many naturalists accept that species such as Beech and Hornbeam may well have naturally arrived in Ireland (as they did in south-eastern Britain) had the right climatic conditions prevailed to allow them to do so. It is difficult to date the Hornbeam trees without using the dendrochronological methods of tree ring counting, however, as the post-medieval Castle Park estate dates to the 1700s and with their clear association with the semi-circular wall, we can surmise that the trees may be at least 200 years old if not more.

Figure 30 Hornbeam at Castle Park

Figure 31 Castle Park Hornbeam with its aerial root holding the top stones of the wall which has fallen underneath.

Figure 32 Large, old Ash tree in eastern corner of Castle Park garden

A wonderful list of trees planted on this estate back in 1768 remains. Written by Peter Lynch of Castlecarra, it lists the trees he planted on his land in the wider area, mostly comprising Service trees (*Sorbus domestica*, a relation of Rowans but not native), Beech and Elms, although no Hornbeams are mentioned. A very large Ash (*Fraxinus excelsior*) on the eastern edge of the garden associated with the post medieval / early modern houses, however, could have been planted/present when Lynch made his list (Figure 32). Ash is the most common native tree species that occurs at Castlecarra where the calcareous soil suits it well. Many of the trees are unfortunately infected with Ash dieback disease. This fungal disease arrived in Ireland in recent years and has now spread to every county. It is expected to result in the deaths of the majority of Ash trees in the country. Another notable tree in this area is a Field Maple (*Acer campestre*) along

the garden wall near the ruined outbuildings. As a non-native tree it would have been part of the managed landscape and a deliberate planting in the gardens at Castle Park.

Table 6 Woodland plants at Castlecarra and their documented uses according to Wyse Jackson (2014).

Common name	**Scientific name**	**Past uses**
Yarrow	*Achillea millefolium*	Long & widely used for many medicinal purposes
Burdock	*Arctium minus*	All parts were eaten; used to flavour beer; many medicinal uses
Hornbeam	*Carpinus betulus*	An introduced tree, it has no traditional uses in Ireland
Enchanter's nightshade	*Circaea lutetiana*	No recorded uses
Creeping thistle	*Cirsium arvense*	Many medicinal & veterinary uses
Crested dogs tail	*Cynosaurus cristatus*	Used to make ladies bonnets, mats & baskets
Ash	*Fraxinus excelsior*	Many uses, the wood widely used but was also an important medicinal plant with all parts used to treat ailments such as rheumatism, heartburn, warts, burns & many more.
Ladies bedstraw	*Gallium verum*	Used as rennet to curdle milk & a dye plant
Shining cranesbill	*Geranium lucidum*	No recorded uses
Herb bennet/Wood avens	*Geum urbanum*	Lots of medicinal uses including the treatment of chills and kidney trouble
Ivy	*Hedera helix*	Numerous medical & veterinary uses
Holly	*Ilex aquifolium*	Traditionally used as a decoration at Christmas time that likely predates Christianity. Medicinal uses include treatment for burns, scalds, colic & gall bladder problems.
Nipplewort	*Lapsana communis*	Leaves eaten & plant used to treat cuts & bruises & to help with breast-feeding problems
Meadow vetchling	*Lathyrus pratensis*	No recorded uses
Crab apple	*Malus sylvestris*	Fruit eaten, bark used for a yellow dye, wood had many uses
Bartsia	*Odonites vernus*	No recorded uses
Wood sorrel	*Oxalis acetosella*	Leaves eaten in salads, various medicinal & veterinary uses
Selfheal	*Prunella vulgaris*	An important & widely used medicinal herb for treating respiratory, heart and skin problems amongst many others.
Purging buckthorn	*Rhamnus catharticus*	Used as a purgative & a laxative. Also used to make dye.

There is a rich herb layer in the old gardens here at Castle Park/Castlecarra (Figure 33 and Figure 34). The old gardens now blend seamlessly with the surrounding scrub and woodlands but on the First Edition Ordnance Survey maps, some of the garden layout is very clear. The table lists (Table 6) these woodland species alongside their known uses in past times in Ireland. The woodlands in the vicinity Castlecarra when it was inhabited during the medieval period would have featured many if not all of the species listed (except Hornbeam). It is reasonable to assume, therefore that these plants could have fulfilled many of the daily nutritional and medicinal needs of Castlecarra's inhabitants.

Figure 33 Wood avens / Herb bennet

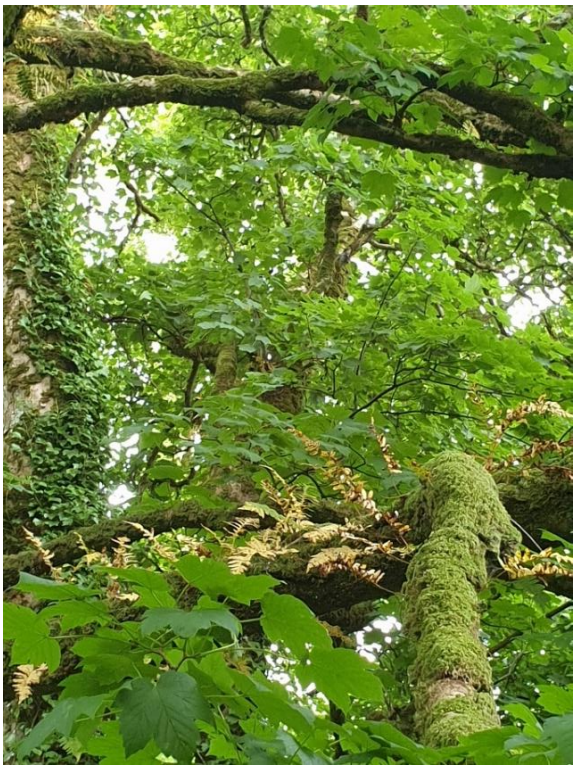


Figure 34 Dense fern, moss & ivy epiphytic growth on trees at Castlecarra woods (epiphytes are plants that grow on trees for support, they are not parasitic)

Castle ruins and walls (Stone walls & other stonework BL1)

Similar to Adare Castle, the walls of Castlecarra have been well cleaned in recent years as part of Office of Public Works conservation and management efforts. Unfortunately, this meant there were few plants and little species diversity to record from the castle walls themselves. The ground surrounding the castle building, however, features the remains of walls associated with the castle complex which have not been stripped of vegetation and these supported a few more species. It is safe to speculate that these species also grew on the castle walls themselves prior to cleaning (see Table 7).

Table 7 Plants recorded growing on the walls of Castlecarra and their documented uses according to Wyse Jackson (2014)

Common name	**Scientific name**	**Past uses**
Rustyback fern	*Asplenium ceterach*	Medicinal uses for 'fluxes of the belly'
Maidenhair spleenwort	*Asplenium trichomanes*	Used to treat ailments of the spleen
Short-fruited willowherb	*Epilobium obscurum*	No recorded uses
Cut-leaved cranesbill	*Geranium dissectum*	No recorded uses
Herb Robert	*Geranium robertianum*	A long history of many medicinal uses & as a treatment for 'red water' in cattle.
Dog daisy	*Leucanthemum vulgare*	Eaten raw used in treatments for coughs, chills, sore eyes, jaundice, wounds, boils, ulcers & tuberculosis
Pellitory of the wall	*Parietaria judaica*	Many medicinal uses including as a laxative, a diuretic, a treatment for skin, bladder & menstrual problems
Prickly sow-thistle	*Sonchus asper*	Long eaten as a vegetable
Navelwort	*Umbilicus rupestris*	Many medicinal & veterinary uses, leaves can be eaten & can be used to make red & yellow dyes

The only plants visible on the tower walls are those known to be quick growing species that would have grown back after clearance work within the last couple of years. Pellitory-of-the-wall is one such species, which the author suspects is a reason for its ubiquitous occurrences during this survey and on many other Irish medieval buildings (Figure 35 and Figure 36). Wyse Jackson (2014) remarks that this plant in particular is thought to have been 'important in traditional medicine in ancient times in Ireland'. This confirms this author's thesis that the ubiquity of Pellitory on medieval buildings in Ireland is a combination of the resilience and quick-growth habits of the species as well as widespread usage by humans in the past. This last point is supported by the fact that the species is commonly found on walls associated with human habitation but not elsewhere in Ireland.

Figure 35 Castlecarra Castle, note presence of some plants on cleaned walls

Figure 36 Lush Pellitory-of-the-wall growth at Castlecarra

Navelwort is another plant typical of Irish ruins and like Pellitory it has a rich history associated with its uses in the middles ages (Figure 37). In Ireland we have a wonderful tangible link back to those times and the use of Navelwort through the Smarmore slates. These are pieces of slate recovered from the ruins of Smarmore church in Co. Louth in 1959. The slates are inscribed with what appear to be medicinal recipes from the early fifteenth century (Bliss 1965). Navelwort, referred to as '*Peni wrt of wallis*', features in one of the recipe's list of ingredients but unfortunately the medicinal use for this particular recipe has been lost.

Figure 37 Navelwort & Herb Robert in flower on walls beside Castlecarra

Limestone pavement at the lake shore (Exposed calcareous rock, ER2)

As described above, Castlecarra is situated in a beautiful landscape that is of huge ecological value and is protected under the E.U. Habitats Directive. The fundamental basis of this is the limestone geology which makes Lough Carra itself so special. This calcareous influence is visible along the lake shore beside the castle where limestone pavement habitat, that famously occurs in the Burren in Co. Clare, has one of its most northerly manifestations at Lough Carra.

This landscape features a great botanical diversity and a long list of species was recorded along just a short section of about 10m on the lake shore below the castle (Table 8). This habitat quickly grades from short herb species beside the lake shore into dense scrub habitat dominated by shrubs and trees as one moves inland. Notably Purging buckthorn (*Rhamnus cathartica*) (Figure 38) dominates the lake shore scrub at Castlecarra but this species is a rarity in

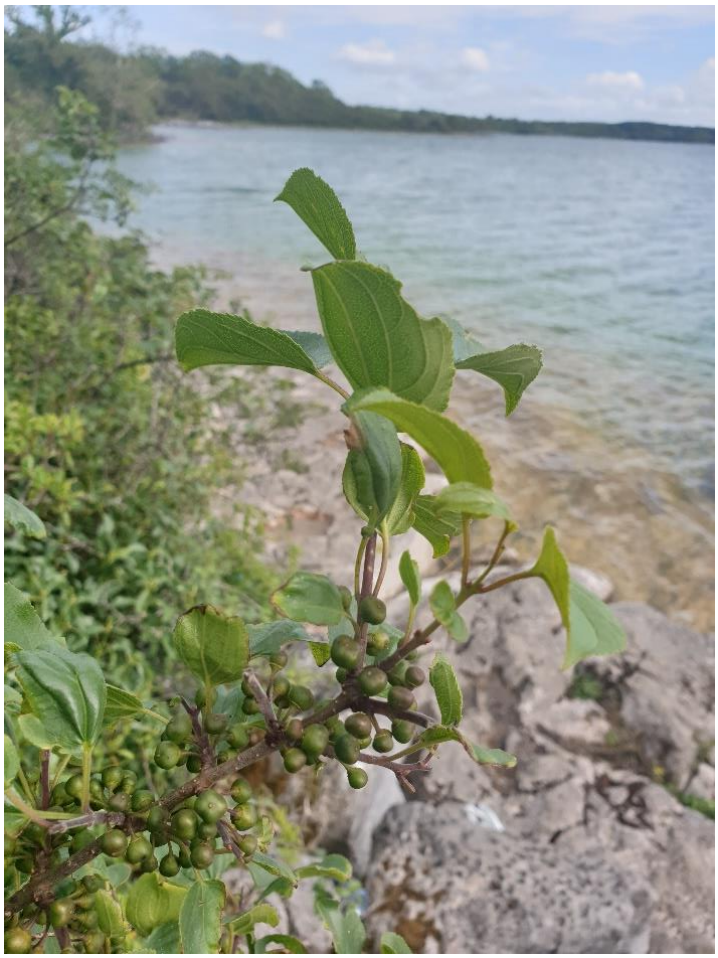


Figure 38 Purging Buckthorn on the lake shore at Castlecarra

Ireland more generally. This plant was definitely used medicinally in the past in Ireland and the clue is in the name! According to Wyse Jackson (2014), the Purging buckthorn fruits are powerful purgatives and a laxative. Interestingly he also notes that Allen and Hatfield (2004) record that it traditionally had a veterinary use in Co. Mayo to treat 'dry murrain' in cattle.

Figure 39 Yarrow on the limestone pavement of the shores of Lough Carra

Table 8 Plants recorded on the shore of Lough Carra near Castlecarra and their documented uses according to Wyse Jackson (2014)

Common name	**Scientific name**	**Past uses**
Yarrow (Figure 39)	*Achillea millefolium*	Long & widely used for many medicinal purposes
Wall rue	*Asplenium ruta-muraria*	Used to treat rickets and an asthma remedy
Marsh marigolds	*Caltha palustris*	Used to treat heart problems, also widely used to ward off 'evil spirits' for people and livestock.
Meadowsweet	*Filipendula vulgaris*	Widely used to treat headaches, sweeten food & crushed to form an air freshener.
Ash	*Fraxinus excelsior*	Many uses, the wood widely used but was also an important medicinal plant with all parts used to treat ailments such as rheumatism, heartburn, warts, burns & many more.

Common name	Scientific name	Past uses
Herb Robert	*Geranium robertianum*	A long history of many medicinal uses & as a treatment for 'red water' in cattle.
Ivy	*Hedera helix*	Numerous medical & veterinary uses
Holly	*Ilex aquifolium*	Traditionally used as a decoration at Christmas time that likely predates Christianity. Medicinal uses include treatment for burns, scalds, colic & gall bladder problems.
Greater bird's foot trefoil	*Lotus pedunculatus*	No uses recorded
Yellow loosestrife	*Lysimachia vulgaris*	No uses recorded
Purple loosestrife	*Lythrum salicaria*	Used to produce dyes,
Domestic apple	*Malus domestica*	Well used for its fruit
Watermint	*Mentha aquatica*	Lots of culinary uses but also common medicinal uses treating indigestion, stomach pains & headaches etc.
Silverweed	*Potentilla anserina*	Widely eaten as a vegetable in the past & a large range of medicinal uses particularly to do with treating bleeding
Lesser spearwort	*Ranunculus flammula*	A poisonous plant that causes skin irritations & blisters & this is why is has a history of use for treatment of diseases such as Bubonic plague when it was believed disease could be drawn out of the body in this way.
Purging buckthorn	*Rhamnus catharticus*	Used to make different coloured dyes, fruits used as purgatives & laxatives
Guelder rose	*Viburnum opulus*	Poisonous unless cooked, there are records of culinary uses in other parts of Europe but not really in Ireland.

Concluding comments to the botanical survey of Castlecarra

Castlecarra is situated in an ecologically sensitive area with a rich biodiversity in its hinterland. The castle itself, however, did not feature a notable biodiversity of plant species and much of this can be attributed to continued cleaning of the walls in recent times (Table 9). Woodland, scrub and limestone pavement habitats would have occurred in proximity to Castlecarra in medieval times as they still do today. While the broadleaved woodland and scrub habitats which occur around the castle today are not pristine in the ecological sense (due to the presence of several species that would have been brought to Ireland in recent centuries e.g. Sycamore), nevertheless they do give some indication of what habitats and plant species would have been locally available to the inhabitants of the castle in medieval times.

Castlecarra Plant List

Table 9 Plants recorded on and in the vicinity of Castlecarra with common uses as described in Wyse Jackson (2014).

Common name	Scientific name	Native/ Archaeophyte/Neophyte	Occurrence at Castlecarra site	Irish distribution within its natural habitats	Common Use
Field maple	Acer campestre	Neophyte	Rare	Rare	Can be harvested for its sap. The individual tree at Castlecarra is a relict of the former garden.
Sycamore	Acer pseudoplatanus	Neophyte	Common	Common	Traditionally used to make domestic utensils. Used in the Irish linen industry and in the making of musical instruments
Yarrow	*Achillea millefolium*	Native	Widespread	Common	Long & widely used for many medicinal purposes
Burdock	*Arctium minus*	Native	Limited	Common	All parts were eaten; used to flavour beer; many medicinal uses
Rustyback fern	*Asplenium ceterach*	Native	Limited	Common	Medicinal uses for 'fluxes of the belly'
Wall rue	*Asplenium ruta-muraria*	Native	Limited	Common	Used to treat rickets and an asthma remedy
Maidenhair spleenwort	*Asplenium trichomanes*	Native	Limited	Common	Used to treat ailments of the spleen
Marsh marigolds	*Caltha palustris*	Native	Limited	Common	Used to treat heart problems, also widely used to ward off 'evil spirits' for people and livestock.
Hornbeam	*Carpinus betulus*	Neophyte	Prominent	Occasional	An introduced tree, possibly in the 17th century, it has no traditional uses in Ireland
Enchanter's nightshade	*Circaea lutetiana*	Native	Woodland	Common	No recorded uses
Creeping thistle	*Cirsium arvense*	Native	common	Common	Many medicinal & veterinary uses

Common name	**Scientific name**	**Native/ Archaeophyte/Neophyte**	**Occurrence at Castlecarra site**	**Irish distribution within its natural habitats**	**Common Use**
Crested dogs tail	*Cynosaurus cristatus*	Native	Limited	Common	Used to make ladies bonnets, mats & baskets
Short-fruited willowherb	*Epilobium obscurum*	Native	Limited	Common	No recorded uses
Meadowsweet	*Filipendula vulgaris*	Native	Common	Common	Widely used to treat headaches, sweeten food & crushed to form an air freshener.
Ash	*Fraxinus excelsior*	Native	Common	Common	Many uses, the wood widely used but was also an important medicinal plant with all parts used to treat ailments such as rheumatism, heartburn, warts, burns & many more.
Ladies bedstraw	*Gallium verum*	Native	Limited	Common	Used as rennet to curdle milk & a dye plant
Cut-leaved cranesbill	*Geranium dissectum*	Native	Limited	Common	No recorded uses
Shining cranesbill	*Geranium lucidum*	Native	Limited	Common	No recorded uses
Herb Robert	*Geranium robertianum*	Native	Common	Abundant	A long history of many medicinal uses & as a treatment for 'red water' in cattle.
Herb bennet/Wood avens	*Geum urbanum*	Native	Common	Common	Lots of medicinal uses including the treatment of chills and kidney trouble
Ivy	*Hedera helix*	Native	Abundant	Abundant	Numerous medical & veterinary uses
Holly	*Ilex aquifolium*	Native	Common	Common	Traditionally used as a decoration at Christmas time that likely predates Christianity. Medicinal uses include treatment for burns, scalds, colic & gall bladder problems.

Common name	Scientific name	Native/ Archaeophyte/Neophyte	Occurrence at Castlecarra site	Irish distribution within its natural habitats	Common Use
Nipplewort	*Lapsana communis*	Native	Common	Common	Leaves eaten & plant used to treat cuts & bruises & to help with breast-feeding problems
Meadow vetchling	*Lathyrus pratensis*	Native	Limited	Common	No recorded uses
Dog daisy	*Leucanthemum vulgare*	Native	Common	Common	Eaten raw used in treatments for coughs, chills, sore eyes, jaundice, wounds, boils, ulcers & tuberculosis
Greater bird's foot trefoil	*Lotus pedunculatus*	Native	Limited	Common	No uses recorded
Yellow loosestrife	*Lysimachia vulgaris*	Native	Limited	Occasional	No uses recorded
Purple loosestrife	*Lythrum salicaria*	Native	Limited	Common	Used to produce dyes,
Domestic apple	*Malus domestica*	Introduced	Rare	Occasional	Well used for its fruit. While it is highly likely that Malus domestica trees existed at Castlecarra in the past, the tree noted on the lake's edge at Castlecarra is potentially resulting from a discarded apple core
Crab apple	*Malus sylvestris*	Native	Limited	Frequent	Fruit eaten, bark used for a yellow dye, wood had many uses
Watermint	*Mentha aquatica*	Native	Limited	Common	Lots of culinary uses but also common medicinal uses treating indigestion, stomach pains & headaches etc.
Bartsia	*Odonites vernus*	Native	Limited	Common	No recorded uses
Wood sorrel	*Oxalis acetosella*	Native	Common	Common	Leaves eaten in salads, various medicinal & veterinary uses

Common name	Scientific name	Native/ Archaeophyte/Neophyte	Occurrence at Castlecarra site	Irish distribution within its natural habitats	Common Use
Pellitory of the wall	*Parietaria judaica*	Native	Common	Common	Many medicinal uses including as a laxative, a diuretic, a treatment for skin, bladder & menstrual problems
Silverweed	*Potentilla anserina*	Native	Common	Common	Widely eaten as a vegetable in the past & a large range of medicinal uses particularly to do with treating bleeding
Selfheal	*Prunella vulgaris*	Native	Common	Common	An important & widely used medicinal herb for treating respiratory, heart and skin problems amongst many others.
Lesser spearwort	*Ranunculus flammula*	Native	Common	Common	A poisonous plant that causes skin irritations & blisters & this is why is has a history of use for treatment of diseases such as Bubonic plague when it was believed disease could be drawn out of the body in this way.
Purging buckthorn	*Rhamnus catharticus*	Native	Common	Rare	Used to make different coloured dyes, fruits used as purgatives & laxatives
Dog rose	*Rosa canina agg.*	Native	Common	Common	Rosehips widely used in Ireland to make syrup, jams, jellies & wine. Medicinally they were used to treat many ailments. Shoots are used in basketry.
Brambles	*Rubus fruticosus*	Native	Woodland	Abundant	Blackberries, the fruit of the Bramble have always been an important food in Ireland. All parts of the plant can be used to make different colour dyes. All parts also used for various medicinal uses.
Clustered dock	*Rumex conglomeratus*	Native	Common	Common	No recorded uses

Common name	**Scientific name**	**Native/ Archaeophyte/Neophyte**	**Occurrence at Castlecarra site**	**Irish distribution within its natural habitats**	**Common Use**
Elder	*Sambucus nigra*	Native	Common	Common	An infinite number of culinary, medicinal and veterinary uses for centuries throughout Europe.
Prickly sow-thistle	*Sonchus asper*	Native	Limited	Common	Long eaten as a vegetable
Hedge parsley	*Torilus japonica*	Native	Limited	Common	No recorded uses
White clover	*Trifolium repens*	Native	Common	Common	Long eaten cooked as vegetable
Navelwort	*Umbilicus rupestris*	Native	Limited	Frequent	Many medicinal & veterinary uses, leaves can be eaten & can be used to make red & yellow dyes
Nettle	*Urtica dioica*	Native	Common	Abundant	A large variety of culinary & medical uses in addition to other uses.
Guelder rose	*Viburnum opulus*	Native	Limited	Limited	Poisonous unless cooked, there are records of culinary uses in other parts of Europe but not really in Ireland.

Castleroche, Co. Louth

Castleroche, Co. Louth, botanical & habitat (according to Fossitt 2000) survey & descriptions

Site description

Castleroche is dramatically situated at the western corner of a rocky outcrop within the pastoral setting of north Louth. The site was surveyed on a mild, very wet day in June 2020 (Figure 40). At present, the land in and around the castle is primarily composed of sheep pasture fields (GS1, Fossitt 2000) with well-established native hedgerows (WL1, Fossitt 2000) marking field boundaries and an unnamed spring-fed stream (FW1, Fossitt 2000) running through the field on the castle's northern and western sides.

Figure 40 View of Castleroche from the banks of the stream that runs along the northern side.

Habitat descriptions

Neutral grassland (GS1)

The area around the castle is clearly a long-established, traditional sheep pasture area with no evidence of herbicide use. While it is possible that there may have been occasional fertiliser applications on the lower flatter areas of the field, it would appear no fertiliser has been applied to the grassland in and around the castle site itself. This is reflected in a good diversity of herb and grass species. Typical grassland species noted during the site visit included the herbs: Yarrow (*Achillea millefolium*); Selfheal (*Prunella vulgaris*); Germander speedwell (*Veronica chamaedrys*); Mouse-ear hawkweed (*Hieracium pilosella*); Bird's foot trefoil (*Lotus corniculatus*); White clover (*Trifolium repens*); Burnet saxifrage (*Pimpinella saxifraga*) and Lady's bedstraw (*Galium verum*). Bent grass (*Agrostis stolonifera*) and Meadow grasses (*Poa* spp) were the most prominent of the grass species. The rocky escarpment on which the castle is situated is very steep in places making it inaccessible for the grazing sheep. Here some Hawthorn (*Crataegus monogyna*) bushes have managed to avoid grazing and become established (Figure 41).

Figure 41 View from the southwestern castle walls showing the steep slopes leading down to the surrounding grazing land. The ridges visible in the left of the picture are natural soil slippage caused by the steep slope. The bush is a Hawthorn, one of several g The bush is a Hawthorn, one of several growing on the slopes where they've escaped grazing.

These spots are where some of the more unusual plant species were found, the most notable being Milk thistle (*Silybum marianum*) (Figure 42). This plant, originally from the Mediterranean region, was introduced to Ireland centuries ago with a long-established use to help lactating women increase their milk output. It is still widely used today as an herbal remedy to enhance liver function. This plant is only found in Ireland associated with old buildings leading to a reasonable belief that it may have been used by former female occupants of Castleroche!

Figure 42 Milk thistle (Silybum marianum) with close-up showing diagnostic white veins

Hemlock (*Conium maculatum*) was also recorded on these steep slopes on the northern side of the castle (Figure 43). Inside the castle walls the grassland pasture is grazed by sheep and the habitat showed evidence of some camping and picnicking humans. Several thistle plants were obvious in this area (Figure 44) and closer inspection revealed some of them to be Broad-winged thistle (*Carduus acanthoides*) and Slender thistle (*Carduus tenuiflorus*), the former was particularly plentiful here. Both of these species are generally rare in Ireland.

Figure 43 Hemlock plant on the Castleroche escarpment with close-up view showing the diagnostic purple spots on its lower stem

Figure 44 Broad-winged thistle inside the castle walls beside the entrance to the 'kitchen' (Photograph courtesy of Dr Niamh Roche).

Rocky areas and castle walls

The castle walls themselves play host to several species, the most prominent being Ivy and Pellitory-of-the-Wall (*Parietaria judaica*) (Figure 45), the latter is a plant ubiquitous of old walls all over Ireland, it is a relation of Nettles (*Urtica dioica*) but with no sting. Small Elder (*Sambucus nigra*) bushes were notable on top of some of the walls where they sometimes occur owing to seed dispersal by birds. Dove's foot cranesbill (*Geranium molle*), a member of the Geranium family of plants was noted growing at the base of the walls.

Figure 45 East-facing wall of the castle featuring many Pellitory-of-the-wall plants along with some Bent grass.

Figure 46 The distinctive grey-green leaves and yellow flower spires of Great mullein on the escarpment at Castleroche.

The rocky escarpment areas at the base of the castle walls and in several other spots along the rock outcrop banks featured the striking 'candles' of Great mullein (*Verbascum thapsus*) (Figure 46). Another striking plant noted growing on the escarpment areas was the Field scabious (*Knautia arvensis*). Both of these plants prefer slightly drier conditions making these banks particularly suitable habitat niches.

Great mullein has had many uses in Ireland from cough cures to candle tapers to cosy shoe liners (Mac Coitir 2006). While not on Synott's list, Great mullein is noted in Connolly's 1994 paper where she presented a study of plants associated with Norman castles and abbeys in Wales. Its presence was also noted at Kell's Priory, Co. Kilkenny where the Prior's Garden may once have been (Stuijtz 2000). While acknowledging that Great mullein occurs in Ireland more commonly than such a plant as Milk thistle, it is indeed possible that this plant was used by past inhabitants of Castleroche. The Botanical Society of Britain & Ireland have had discussions about the long-term viability of *Verbascum* seed (BSBI 1989), raising the possibility of these plants being the descendants of ones used by Castleroche residents in the past.

Hedgerows and trees (WL1)

The hedgerows marking the boundaries of the field in which the Castleroche escarpment is situated are clearly old and long-established. They are dominated by Hawthorn with some Blackthorn (*Prunus spinosa*) and Elder bushes also noted. In parts, most notably the northern area, there are several striking mature Ash trees growing in the hedgerow (Figure 47). Ash trees are native to Ireland and they are often the dominant tree species in limestone areas such as this part of north County Louth. They are the dominant tree species at Castleroche. Mature trees in hedgerows, such as these, are increasingly scarce in Ireland owing to the intensification in agricultural practices of recent decades. This has resulted in over-frequent cutting of trees and hedgerows which stunts their natural development. From an ecological/botanical perspective, the row of mature trees within the hedgerow at Castleroche is a welcome sight. Ash trees would have been a familiar sight to the residents of Castleroche down through the centuries but they are under threat as Ash-dieback disease (*Hymenoscyphus fraxineus*) is now prevalent throughout Ireland. It is hoped that a certain percentage of Ash tree species will have the natural immunity to survive the disease but only time will tell.

Figure 47 Mature Ash trees in hedgerow along northern boundary of site.

Stream (FW1)

A small stream is located at the base of the Castleroche escarpment. This open stream featured some Watercress (*Nasturtium officinale*) and other plants typical of this habitat. Watercress is commonly found across Ireland wherever there is slow-moving water of good nutrient value. A spring is noted on the Ordnance Survey maps of the 19th century, which is probably located in the clump of Compact rushes (*Juncus inflexus*) visible in the top left of (Figure 48). This spring and stream would have made a reliable water source for the Castle in the past.

Figure 48 Castleroche stream featuring Watercress vegetation with Compact rushes in the background.

Concluding comments to the botanical survey of Castleroche

Mentioned previously in the Project Background section was a study of plant species that appear to have a particular affinity with Norman sites in Ireland by Dr Donall Synott in 1979. Of the ten species on the list, six were found at Castleroche during this project (Table 10). This is the highest number recorded in the four castle sites surveyed for this project. This is most likely a reflection of the management regime for the Castleroche site in comparison with the three other castle sites. It has had little human intervention in recent centuries apart from the sheep grazing which is quite possibly not too dissimilar to the land management which would have taken

place around the castle environs when it was inhabited too (Figure 49). This possibly has allowed for the highest number of plant species with the potential to be associated with medieval daily life to have survived at this spot. The occurrence of Milk thistle here at Castleroche is a case in point. A look at the distribution for this species in Ireland on the BSBI website (bsbi.org/maps) shows that the species is very rare in Ireland with its nearest locations to Castleroche being in the Newcastle area of Co. Down and in north Co. Westmeath, both of which are approximately 50 miles distant from Castleroche. This distance rules out natural broadcast of seed and it is known as a species of long establishment where it is found in Ireland (Parnell & Curtis 2012). Thus the management of the Castleroche area for centuries has been conducive to the conservation of some interesting plants with fascinating stories to tell us.

Castleroche Habitat Map

Figure 49 Castleroche Habitat Map

Castleroche Plant List

Table 10 Plants recorded on and in the vicinity of Castleroche, with common uses as described in Wyse Jackson (2014).

Common name	Scientific name	Native/ Archaeophyte/Neophyte	Occurrence at Castleroche site	Irish distribution within its natural habitats	Common Use
Yarrow	*Achillea millefolium*	Native	Widespread	Common	Long & widely used for many medicinal purposes
Bent grass	*Agrostis stolonifera*	Native	Widespread	Abundant	Used in thatching & rope-making
Broad-winged thistle	*Carduus acanthoides*	Native	Limited	Uncommon	No recorded uses
Slender thistle	*Carduus tenuiflorus*	Native	Limited	Uncommon	No recorded uses
Spear thistle	*Cirsium vulgare*	Native	Common	Common	Many medicinal & veterinary uses
Hemlock	*Conium maculatum*	Archaeophyte	Limited	Limited	Particularly associated with castles in Ireland (Parnell & Curtis 2012)
Hawthorn	*Crataegus monogyna*	Native	Common		Many culinary, medicinal & veterinary uses as well as featuring large as sacred 'Fairy trees' with a tradition going back to pre-Christian Ireland.
Ash	*Fraxinus excelsior*	Native	Common	Common	Many uses, the wood widely used but was also an important medicinal plant with all parts used to treat ailments such as rheumatism, heartburn, warts, burns & many more.
Ladies bedstraw	*Galium verum*	Native	Common	Common	Used as rennet to curdle milk & a dye plant
Dove's foot cranesbill	*Geranium molle*	Native	Limited	Limited	No recorded uses
Herb Robert	*Geranium robertianum*	Native	Common	Abundant	A long history of many medicinal uses & as a treatment for 'red water' in cattle.

Common name	Scientific name	Native/ Archaeophyte/Neophyte	Occurrence at Castleroche site	Irish distribution within its natural habitats	Common Use
Ivy	*Hedera helix*	Native	Abundant	Abundant	Numerous medical & veterinary uses
Mouse-ear hawkweed	*Hieracium pilosella*	Native	Common	Common	No recorded uses
Hard rush	*Juncus inflexus*	Native	Limited	Common	Several medicinal uses – particularly used in ointments to treat skin complaints
Field scabious	*Knautia arvensis*	Native	Limited	Limited	Possibly used to treat skin complaints
Dog daisy	*Leucanthemum vulgare*	Native	Common	Common	Eaten raw used in treatments for coughs, chills, sore eyes, jaundice, wounds, boils, ulcers & tuberculosis
Bird's foot trefoil	*Lotus corniculatus*	Native	Limited	Common	No culinary or medicinal uses recorded but it was used widely by schoolchildren as a good luck charm to prevent them from punishment at school!
Mallow	*Malva sylvestris*	Probable archaeophyte	Limited	Limited	Widely used as a food plant and for both medicinal & veterinary uses
Watercress	*Nasturtium officinale*	Native	Limited	Common	Widely used as a food-plant across Ireland in the past. Medicinal & veterinary uses including treatments for heart, kidney & lung troubles.
Pellitory of the wall	*Parietaria judaica*	Native	Common	Common	Many medicinal uses including as a laxative, a diuretic, a treatment for skin, bladder & menstrual problems
Burnet saxifrage	*Pimpinella saxifraga*	Native	Limited	Limited	Noted for its anti-scurvy properties in the past. Also the root was dried and ground and used as a pepper substitute.
Meadow grasses	*Poa spp*	Native	Common	Common	No ethnobotanical uses

Common name	Scientific name	Native/ Archaeophyte/Neophyte	Occurrence at Castleroche site	Irish distribution within its natural habitats	Common Use
Creeping cinquefoil	*Potentilla reptans*	Native	Common	Common	Used to treat ague (typically malaria)
Selfheal	*Prunella vulgaris*	Native	Common	Common	An important & widely used medicinal herb for treating respiratory, heart and skin problems amongst many others.
Dog rose	*Rosa canina agg.*	Native	Common	Common	Rosehips widely used in Ireland to make syrup, jams, jellies & wine. Medicinally they were used to treat many ailments. Shoots are used in basketry.
Brambles	*Rubus fruticosus*	Native	Common	Abundant	Blackberries, the fruit of the Bramble have always been an important food in Ireland. All parts of the plant can be used to make different colour dyes. All parts also used for various medicinal uses.
Elder	*Sambucus nigra*	Native	Common	Common	An infinite number of culinary, medicinal and veterinary uses for centuries throughout Europe.
Milk thistle	*Silybum marianum*	Archaeophyte	Limited	Rare	Traditionally used by lactating women
Red clover	*Trifolium pratense*	Native	Common	Abundant	Widespread veterinary & medicinal uses. Interestingly it's thought to have been mentioned in The Annals of the Four Masters as a flower used to make wine in medieval Ireland.
White clover	*Trifolium repens*	Native	Common	Abundant	Long eaten cooked as vegetable
Navelwort	*Umbilicus rupestris*	Native	Limited	Frequent	Many medicinal & veterinary uses, leaves can be eaten & can be used to make red & yellow dyes

Common name	Scientific name	Native/ Archaeophyte/Neophyte	Occurrence at Castleroche site	Irish distribution within its natural habitats	Common Use
Nettle	*Urtica dioica*	Native	Common	Abundant	A large variety of culinary & medical uses in addition to other uses.
Great mullein	*Verbascum thapsus*	Native	Common	Common	Many medicinal uses including using the leaves to make poultices. Particularly noted for treating coughs.
Germander speedwell	*Veronica chamaedrys*	Native	Common	Abundant	Also used to treat coughs and as a treatment for sore breasts by nursing women.

References

Allen, D.E. & Hatfield, G. 2004. Medicinal Plants in Folk Tradition: An Ethnobotany of Britain and Ireland. Timber Press, Portland and Cambridge.

B.S.B.I. News No. 52, ed R. Gwynn Ellis. Sept. 1989. Viability of long-buried seed – a reply, pp. 25-26.

Connolly A. 1994. Castles and abbeys in Wales: Refugia for 'Mediaeval' Medicinal Plants. Botanical Journal of Scotland Vol. 46 (4), pp 628-636.

Foley, L. 2016. The Botanical Legacy of Bective Abbey from the Twelfth to the Sixteenth Century in Stout, G and Stout, M, (eds) *The Bective Abbey Project, Co. Meath: Excavations 2009–12*. pp 202-214.

Fossitt, J.A. 2000. A Guide to Habitats in Ireland. The Heritage Council, Kilkenny.

Mabey, R. 1996. Flora Britannica. Sinclair-Stevenson, London.

MacGowan F. 2015. "Ecological Report for the Area around Lea Castle, Portarlington, Co. Laois", in *Lea Castle: a Preliminary report*. Portarlington Arts and Heritage Committee, pp. 27-40

Mac Coitir, N. 2006. Irish Wild Plants, myths, legends & folklore. The Collins Press, Cork.

Parnell, J. & Curtis, T. 2012. Webb's An Irish Flora. Cork University Press, Cork.

Reynolds, S.C.P. 2013. Flora of County Limerick. National Botanic Gardens, Glasnevin, Dublin.

Stace, C. 2019. New Flora of the British Isles. 4th Edition. C & M Floristics, Suffolk, UK.

Stuijtz, I. 2002. A Prior's Herb Garden? Archaeology Ireland Volume 14.3 (Autumn) pp.12-14

Synnott, D. 1979. Folk-lore, legend and Irish plants. In: Irish Gardening & Horticulture (ed. E.C. Nelson & A. Brady), pp.37-43. Royal Horticultural Society of Ireland. Dublin.

Wyse Jackson,P. 2014. Ireland's Generous Nature, the past and present uses of wild plants in Ireland. Missouri Botanical Garden Press, St. Louis