Sutton Woods
Woodland Management Plan
2018-2023

Contents

1. Introduction

These woodlands located beside Sutton Castle, Strand Road, Dublin 13 are almost 3.5ha in size. Approximately one third of the woodland is in private ownership. The woodland is a significant feature of the landscape and is designated for protection and as High Amenity within the Fingal County Development Plan of 2017-2023. The woodland is also located within the Howth Special Amenity Area (SAAO).

The development of the woodland is linked to the history of Sutton Castle built in 1880 on the site of Sutton House. Historic Ordnance Survey maps show the presence of the woodland from 1829 surrounding Sutton House close to Strand Road to their expansion into an adjoining quarry, hillside and field by 1913. The woodland as seen today is relatively intact from this date except for an area to the front of Sutton Castle.

This woodland is dominated by mature conifer species including Monterey Pine (*Pinus radiate)*, Black Pine (*Pinus nigra*) and Monterey Cypress (*Cupressus macrocarpa*). Based on their girth measurements these are approximately 90-100 years old.

The woodland's mature conifers have suffered structurally in recent storm events. Currently the majority of young trees within the coniferous woodland are self-sown sycamore (*Acer pseudoplatanus*).

A regeneration project is planned to ensure the woodland is maintained for the benefit of visitors and wildlife. The Howth SAAO Committee have highlighted the public support for the regeneration of Sutton Woods.

6 Inch OS Map 1829-1841

25 Inch OS Map 1897-1913

Current OS Map 2017

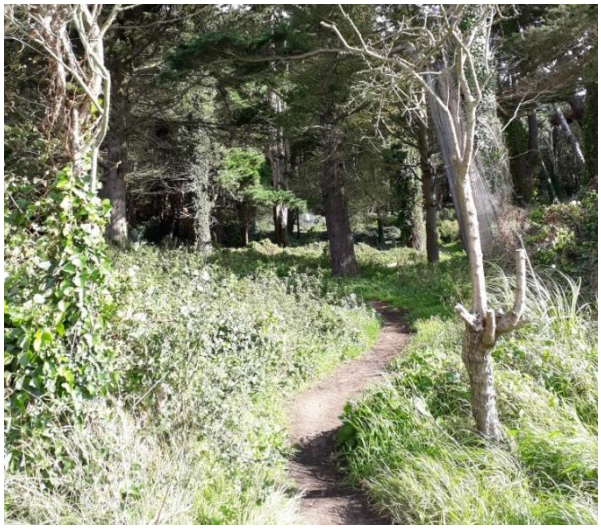
2. Current Use

Although the woodland is located close to residential areas it is not signposted nor entrance points clearly marked. Most of the visitors to this area walk along the coastal path or the open fields between the woodlands and the coast leaving the woodlands unexplored.

The woodlands are in public and private ownership with boundary fencing enclosing privately owned land around Sutton Castle. The public access woodland is approximately 2ha in size and mainly used by local residents for accessing Redrock fields or dog walking. Other occasional users include mountain biking and horse riding. However signs of anti social behaviour such as litter, dumping and fire damage to trees is evident. There are approximately 3 relatively well used access points into the woodland, 2 on the southern boundary and 1 on the east from Redrock fields. An infrequently used path runs along its northern boundary.

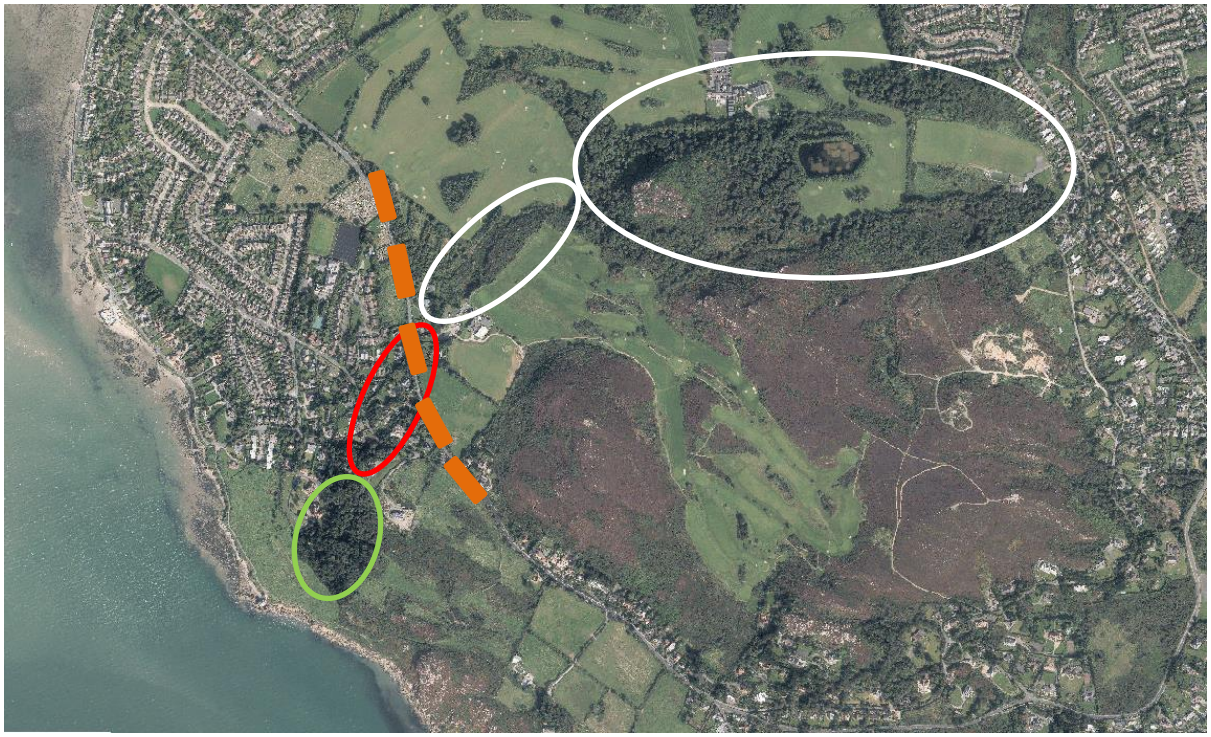
Informal seating/camp fire area within the woodland.

From observations the woodland has a significantly lower level of usage compared to the surrounding coastal paths. The nearby pedestrian counter along the coastal path at Red Rock has recorded up to 500 counts per day at weekends. The woodland doesn't contain any waymarker signage, seating, hard surface paths or have marked entrances. Previous planting projects have resulted in poor establishment rates and there are no signs of previous tree work.



Entrance path from Red Rock fields.

3. Ecology



Sutton Woods (green) with a fragmented ecological corridor to Howth Golf Club & Deer Park woodlands (white) via suburban area (red) and Carrickbrack Road (orange line).

Sutton Woods is located within the Howth Special Amenity Area between the suburban residential area of Sutton and the coastal grasslands of Redrock. Signs of agricultural use in the surrounding fields include the remains of a farm building/yard and rusted metal fence posts along the woodland and field boundaries. Although the woodland is surrounded by open space on three sides including grassland and scrub the absence of hedgerows linking to other woodlands such as at Bog of Frogs makes connectivity for woodland species difficult. Another feature making this connection difficult is Carrickbrack Road located between halfway between these wooded areas.

The dominant woodland tree species are *Pinus* including Monterey pine (*Pinus radiata*) and Black Pine (*Pinus nigra*) with a mix of age from over mature to young mature. These are evident in different areas of the woodland with the more advanced trees situated on the lower flat area and the younger trees situated on the hillside. Other species to note includes naturalised individual ornamental specimens of Sweet Chestnut and Cordyline.

Along the edges of the woodland in particular on the north and east boundaries pioneering species such as birch and sycamore are present. Sycamore along the eastern boundary provides shelter from

the salt laden winds whilst the birch on the northern boundary are young trees which appear to be recent colonists in this area over the past 5 to 10 years.

Young birch trees on the northern boundary form a colonising understorey where the pine canopy is open.

The pine trees in Sutton Woods have not naturally regenerated, possibly due to a combination of factors such as absence of summer heat to open cones, dry sandy soils or competition from natural vegetation. The understorey where light penetrates the canopy near the boundary with Redrock fields is characterised by perennial weed species such as briar, nettle and willow herb however in more shaded woodland areas on the hillside the understorey is dominated by ivy and ferns including bracken.

Contrast in understorey vegetation where open and closed canopies meet within woodland.

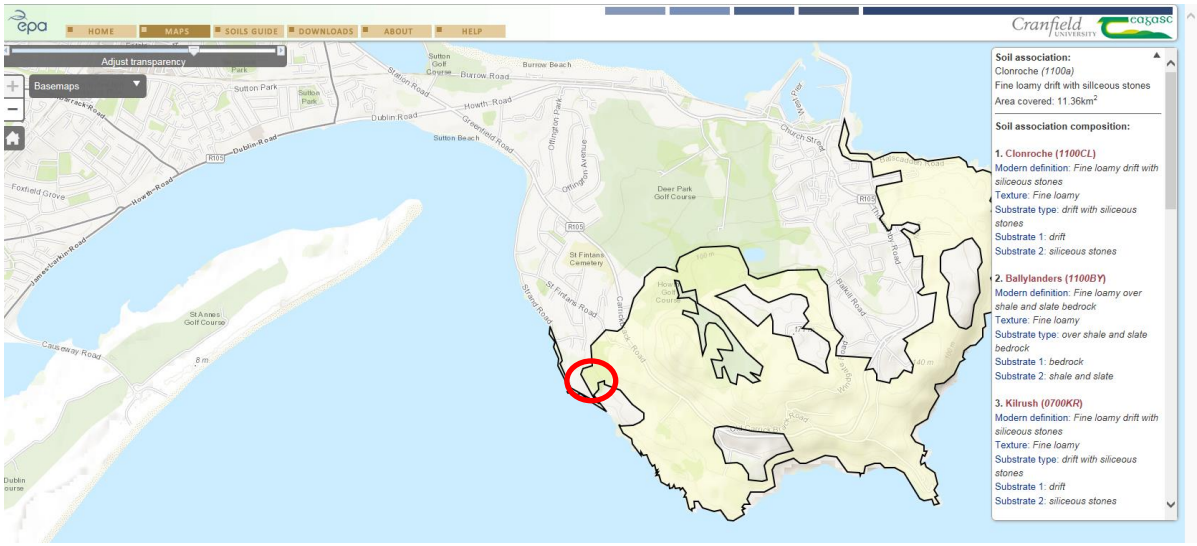
4. Geology

The site has a sloping south facing aspect with dark sandy loam soil of good structure. This is particularly deep along the southern boundary, compared to a similar but shallower soil with stones on the hill side. The hillside soil is also covered in a layer of pine needles from the mature trees.

Deep organic soil on flat area near southern edge.

Shallow organic soil on hillside near northern edge.

The soil map indicates that the woodland is located on a 'fine loamy drift over siliceous stones' associated with the Clonroche soil classification.



Teagasc Soil Map indicating fine loam soil type for Sutton Woods - http://gis.teagasc.ie/soils/map.php

5. Management Aims

A woodland management plan is required to:

1. Ensure proper woodland management that provides a safe amenity for visitors
2. Identifies appropriate regeneration methods including tree species suitable for the site
3. Implements ecological techniques to provide opportunities for habitat creation

Some of the most significant issues are the condition of the mature conifers, the absence of tree regeneration and the potential increase of invasive (native & non native) plant species. Several conifer trees have been windblown in recent years creating gaps in the canopy resulting in the development of a thick understorey of invasive plants such as briar, nettle and willowherb.

Example of windblown mature pine trees in both public and private areas of Sutton Woods.

Approximately .5ha of the woodland currently has an open canopy due to the natural decline of mature conifer trees. These areas are suitable for regenerative planting given the open canopy trees providing adequate light and other suitable growing conditions such as deep free draining soil and shelter from wind. The planting of a range of species and tree sizes should help to establish a replacement canopy over time as the maturing conifer trees naturally decline.

As the woodland is characterised by mature conifers it is the aim of this woodland management plan to maintain this appearance with a high proportion of pine species in the planting mix. This will also improve establishment rates and provide a suitable habitat for red squirrels which are declining in population on the Howth peninsula. Tree species that provide all year round foraging for red squirrels include those producing small seeds, catkins and cones.

Woodland Management Aim 1 – Safe Place for Visitors

In January 2018 a tree condition survey of the woodland was performed by Charles McCorkell Arboricultural Consultancy. The survey included 423 individual trees and 21 tree groups. The results of this survey using visual tree assessment methods reported:

- 98%+ of the trees in the woodland are in one of three mature categories – semi-mature, early-mature or mature.
- 40%+ of the trees in the woodland are considered mature and thus have a shorter useful life expectancy.
- 1% of the trees (incl tree groups) are considered young.

The report highlighted the following work requirements to make the woodland a safer place to visit:

- 64no. dead trees
- 26no. coniferous trees to be felled due to structural instability eg cracks in stem, root plate movement and basal decay.
- Numerous branch failures due to storm damage

The report recommended specific tasks for each tree identified as requiring works. These tasks considered the hazard and potential risk to visitors. Therefore different tasks are recommended for trees in different locations. Trees near or overhanging footpaths are considered a high risk and works must be performed to reduce the risk. Other trees within the woodland will be managed with visitor safety considerations but also to encourage biodiversity eg reduce standing dead trees to an acceptable height.

Woodland Management Aim 2 – Regeneration Planting

The proposed tree planting species mix is selected to withstand the site's coastal location and adapt to the sandy loam soil. Another consideration is to provide for native wildlife such as the red squirrel. Tree species selection information in *The Assessment of Red Squirrels on Howth Peninsula 2011* report for Fingal County Council and the Northern Ireland Squirrel Forum publication *Trees for Red Squirrels* includes the following recommendations:

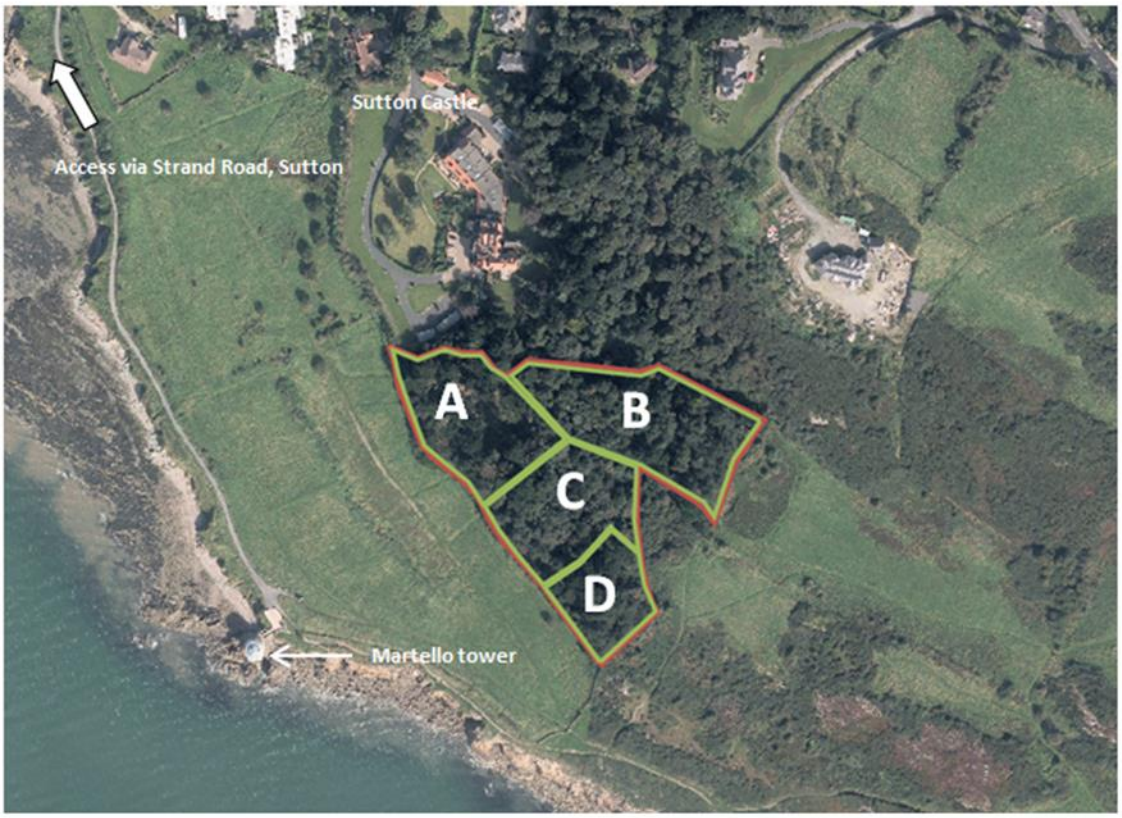
- Black/Austrian pine *Pinus nigra var nigra* – tolerant of coastal sites
- Corsican pine *Pinus nigra var. maritime* – suitable for coastal locations and range of soils
- Monterey pine *Pinus radiate* - suitable for coastal locations and infertile sandy soils

- Lodgepole pine *Pinus contorta* – good on difficult and exposed sites including salt laden winds
- Hazel *Corylus avellana*
- Rowan *Sorbus aucuparia – suitable for exposed sites, shallow soils and acidic/alkaline soils.*

Less suitable tree species:

- Scots pine *Pinus sylvestris* – less tolerant of coastal winds
- Oak *Quercus sp*. – preferred by grey squirrels

Planting Phase 1 (2018) - Areas A and D



Two areas have been identified as suitable for tree planting in 2018. Area A is approximately .45ha in size and Area D is approximately .25ha. These areas currently have a very open canopy which allows light to penetrate to the forest floor. The total area for planting is approximately 0.7ha however this includes existing footpaths and other small open spaces.

Areas B & C will be planted in Phase 2 (planned for 2019). These areas require thinning to allow existing trees to develop and create opportunities for new plantings similar to Phase 1 or as

appropriate. The thinning will be performed subject to a Felling Licence being issued by the Forest Service.

Planting will take place during the planting season with late winter/early spring recommended for coniferous species. Pine species such as *Pinus radiate* will be specified as container grown (P9s) to maximise establishment rates. As there are pine stumps and deadwood present in the woodland the threat of pine weevil will be monitored and suitable controls (chemical or biological) will be implemented.

Transplant Schedule – Phase 1 (2018)

Mix	Species	Type	Min Size	No. of Plants	Planting Spacing
40%	Monterey pine *Pinus radiata*	Container	30-60cm	700	2m
40%	Black pine *Pinus nigra var nigra*	Bare root/ container	30-60cm	700	2m
10%	Hazel *Corylus avellana*	Bare root	60-90cm	175	2m
5%	Holly *Ilex aquifolium*	Bare root/ container	40-60cm	75	2m
5%	Common Oak *Quercus robur*	Bare root	90-120cm	80	2m

The planting density for transplants is 2,500/ha as per forestry guidelines. In addition a number of standard trees will be planted for amenity purposes. These include:

Species	Type	Min Size	Quantity
Black pine *Pinus nigra nigra*	Rootballed/container	80-100cm	6
Common Oak *Quercus robur*	Bare root/ container/RB	10-12cm	10

Planting areas will be prepared by clearing weed growth using mechanical methods. All new plantings will be monitored for a period of three years during which quarterly visits for weed control,

replacement planting or other tasks will be performed to ensure good establishment rates. As the woodland is within the Howth SAAO the use of chemical control and artificial fertilisers will be restricted and only considered where no other option is feasible.

Woodland Management Aim 3 – Encourage Biodiversity

Woodland animal species includes bats, small mammals and invertebrates can be encouraged to inhabit Sutton Woods by using a range of techniques beneficial to wildlife including standing deadwood, log piles, retaining tree cavities, selecting fruit & nut tree species and vegetation management.

The Tree Condition Report by Charles McCorkell Arboricultural Consultancy states that there is a high level of deadwood within the woodland and that approximately 20m3 per ha should be retained and can be concentrated in areas of potential ecological value. The tree work recommendations considers this provision and retains a range of deadwood features e.g. broken or dead branches in the canopy, standing dead trees, windblown trees and hollow tree stems.

6. Integrated Pest Management

A wide range of pests and diseases pose a threat to the establishment of young forestry transplants. The most common of these include rabbits & grey squirrels which cause feeding damage. Other threats from weed and invasive plant species such as sycamore shade out transplants and compete for water and nutrients.

Sutton Woods contain a range of deadwood including pine stumps which have the potential to be sources of pest and fungal infections. Fungal diseases where stumps of recently felled trees are sources of infection includes fomes (*Heterobasidion annosum*), which can infect living tree roots and cause root rots. Although this disease is relatively uncommon in Ireland, in Europe it can account for a loss of up to 25% in forestry crops. Pests such as the Pine Weevil also use dead pine stumps as part of their lifecycle as larvae can be found under the bark.

One of the most common fungal diseases of pine trees is Dothistroma Needle Blight also known as Red Band Needle Blight. Its presence in Ireland was confirmed in 2016 in Cork and Limerick. Visual symptoms include a lions tail/bottle brush appearance of stems where old infected needles are shed and new growth at the tips remain. The reddish brown bands usually contain black dots which are fruiting bodies during the summer. Lower branches of trees are usually infected first and then

infection spread upwards and leads to defoliation. A number of pests and diseases are specific to pine species, these are listed in the table below.

Pest	Range	Threat Level	Signs & Symptoms
Pine Processionary Moth	Continental Europe and several records from southern UK up to 2017, mostly adults.	Low	Monitor foliage for eggs. Caterpillars move in nose to tail formation in late spring/early summer. Have hair that are an irritate to humans causing rashes.
Pine tree lappet moth	First found in Scotland in 2004 with other single adult reports in southern England.	Low	Monitor for caterpillars feeding on pine needles from early summer onwards.
Pine weevil	In Ireland usually found on clear felled pine plantations re-planted within 5 years with pine. Control methods include reducing grass weed cover for adults and insecticide applications to control larvae. Peak damage times are spring and late summer.	Medium-High	Adults emerge in September cause feeding damage to bark of young transplants which can result in 100% planting fail. Larvae feed under bark of stumps. Adults active March to October.
Pine wood Nematode	Originally from Asia this pesthas been found in pine forests in Portugal(2009) and Spain(2008).	Low	Wilt of pine trees leading to death.
Disease	**Lifecycle**	**Threat Level**	**Signs & Symptoms**
Dothistroma Needle Blight /Red Band Needle Blight	A fungal pathogen, identified by black dots (pycnidia) within the red bands in summer. 70% of *Pinus nigra* (Corsican pine) in UK infected. Requires humid moist conditions to spread. Reduce weed cover to maintain air flow.	Medium-High	Yellow and tan spots on the base of older pine needles resulting in red brown banding. Lions tail of new growth after old needle drop.
Root and Butt Rot/Fomes	Dead conifer stumps are a host for this fungal disease. Fungus grows down into the dead tree roots and infects the roots of living trees nearby.	Medium	Root rot and base rot of living conifers in close proximity to dead conifer stumps.

One of the most significant threats to maintaining coniferous tree cover in Sutton Woods is the invasive tree species Sycamore. A significant stand is located midway along the southern boundary of the forest with another stand located in the north-eastern corner. These stands have an

undergrowth of ivy due to the low light levels on the forest floor. The stands are located in particularly exposed aspects including to salt laden winds and may have become established when maturing pine died and seedlings spread by wind gained a foothold. The trees are in the young category with Charles McCorkell Arboricultural Consultancy report recommending their thinning to create new planting areas and prevent further colonisation.

Ivy on trees has also been noted in the report as requiring management to prevent tree damage. Although beneficial for biodiversity, excessive amounts of ivy can increase the 'sail' of the tree canopy resulting in windblown trees. Approximately 30% of the trees in the woodland require ivy management. This consists of cutting the ivy stems and leaving it to naturally die off on the tree. This will provide cover for invertebrate species and allows a cycle of natural regeneration without the use of chemical controls.

7. Action Plan 2018-2023

Task	2018	2019	2020	2021	2022
Survey Options	Tree Condition Survey completed in January 2018	Woodland Habitat Survey	Bat Survey	Bird Survey	Invertebrate Survey
Tree Works by contractor	Hanging branches & dead trees	Thin stands	Monitor	Monitor	Monitor
Planting by contractor	Areas A & D	Areas B &C	Replacements	Check	Check
Weed Control by contractor (cutting)	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Pest Monitor by FCC	Continuous	Continuous	Continuous	Continuous	Continuous
Invasive Plant Mgt by contractor	Quarterly	Thin out Sycamore	Quarterly	Quarterly	Quarterly
Biodiversity Options by FCC & Contractor	Log piles, standing deadwood, retain hollow branches	Log piles, standing deadwood, retain hollow branches	Bat/bird boxes	Monitor	Monitor
Ivy cutting by contractor	Cut from trees identified	Monitor	Monitor	Monitor	Re-cut
Litter picking by FCC	Continuous	Continuous	Continuous	Continuous	Continuous
Amenity Features Options	Seating	Path upgrade	Signage	Nature Trail	Natural play

Annual Maintenance Schedule

Year	Month	Main Task at Quarterly Visits	Other Tasks incl. Quarterly Visits*
2018	June	Weed control (non-chemical)	Check losses. Watering. Pesticide/fertiliser application
	September	Weed control (non-chemical)	Pest & disease control
	December	Replace losses	Pesticide application
2019	March	Weed control (non-chemical)	Pesticide and/fertiliser application
	June	Check losses	Pesticide application Weed Control Watering
	September	Weed control (non-chemical)	Pesticide application. Watering
	December	Replace losses	Pesticide application
2020	March	Weed control (non-chemical)	Pesticide application Apply fertiliser
	June	Check losses	Pesticide application Weed Control Watering
	September	Weed control (non-chemical)	Pesticide application. Watering
	December	Replace losses	Pesticide application
2021	March	Weed Control (non-chemical)	Final check & replace losses

8. Review & Update

This management plan should be reviewed and updated in 2020 to take into consideration any relevant information such as data from future ecological studies. The development of these woodlands into a more frequently used amenity must be in co-operation with local residents and Howth SAAO Committee.