Alderney Community Woodland Management Plan 2019-2023

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1. Introduction

1.1 Background

The Alderney Community Woodland (ACW) is the result of many thousand years of human activity. Alderney's strategic position turned it into a key point in the English Channel which was disputed by the Romans, Normans, British and Germans (Gander) creating a diverse landscape where historic features and a variety of habitats for wildlife come together.
The ACW is home to a variety of habitats, broadleaved and coniferous woodlands, stunning grasslands and diverse scrub. Yet the island is perhaps the most denuded self-governing state in Europe, with only 2% woodland cover compared to an average of 44% woodland cover across European countries (Woodland Trust, 2011), highlighting even more the importance of its conservation.

1.2 Summary of Management to Date

1.2.1 2009-2013

The ACW Project was first proposed in 2009 as a response to the general assessment of habitat cover undertaken by the Alderney Wildlife Trust (AWT). The General Services Committee (GSC) agreed unanimously to support the proposal through the use of States of Alderney (The States) owned land (partly leased by two tenants), the provision of some labour support and a limited grant allocation.
Due to limited local resources management was undertaken under two Phases:

Phase 1, focused on the establishment of the concept, aims and objectives. An initial public consultation was undertaken in 2010 and received wide ranging support from the general public and local organizations, along with suggestions and guidance which were incorporated into the planning process. In addition, a limited amount of tree planting was carried out in 2010.

Phase 2, concentrated on the production of the ACW Development Plan and the draft Annual Action Programme as a response to the need for a planning strategy. These documents were formally established in 2011 after a full public consultation was sought on the plans prior to their agreement by the States. The level of site clearance and subsequent planting was also increased in preparation for future work.

The Development Plan described the goals and objectives of the Woodland for the period 2011-2014. The overall aim of the ACW Development Plan was to develop a mature, wooded area, planted with native species which support high biodiversity and to create a completely new wildlife habitat and amenity space for a wide range of user groups. The Plan also considered the provision of educational facilities for schools, clubs and associations as well as the potential for timber production in a sustainable way.

The ACW Development Plan (Henney et al. 2011) expired in December 2013, and the main achievements were:

- Woodland cover on the ACW (and therefore on the island) was doubled through the planting of over 10,000 native deciduous trees and shrubs between 2010 and 2013.
- Heritage sites were restored and refurbished to allow safe access, and to provide a valuable educational resource where possible.
- The network of paths was extended, almost doubled, and a new path has been opened allowing a fuller enjoyment of the site.
- The site was opened to a wide range of events and recreational activities and became an increasingly important focal point of the island.

1.2.2 2014-2018

The Alderney Community Woodland Management Plan (Gonzalez et al. 2014) expired in 2018 and was largely successful in delivering the main aims;

- Paths were continually maintained to enable access to the woodland, historical features, and educational areas.
- There was a continual effort towards the aftercare of trees; replacing dead trees, clearing in and around tree guards, and preventing scrub encroachment particularly in the orchard.
- Benches and firewood were harvested from the felled pine trees and sold or distributed and the proceeds reinvested into the ACW.
- A number of surveys for bats, owls and butterflies were completed; however the BTO bird survey was uncompleted due to staffing shortages.

The 'Community Approach' aim of the ACW is continuously met and the woodland is becoming increasingly used for its educational and amenity value

This document, the ACW Management Plan 2019-2023, represents Phase 3, and aims to continue the work undertaken to date, updating the background information for the site and providing the focus and direction of management of the site for the next five-year period.
The ACW is currently managed by the AWT in partnership with a number of closely involved groups, societies, schools and businesses (Appendix 1).
According to the ACW's "community approach", community involvement is the key to the ACW's long term future and therefore the AWT has aimed to encourage local residents to get involved in all aspects of the site's development and on-going management, through active participation as well as through consultation.

2. Site Description

2.1 Location

The ACW covers 42 acres (17 ha) and is situated near Les Rochers, in the middle of the current island woodland cover, allowing the connection of a wooded backbone of the island (Fig. 1).

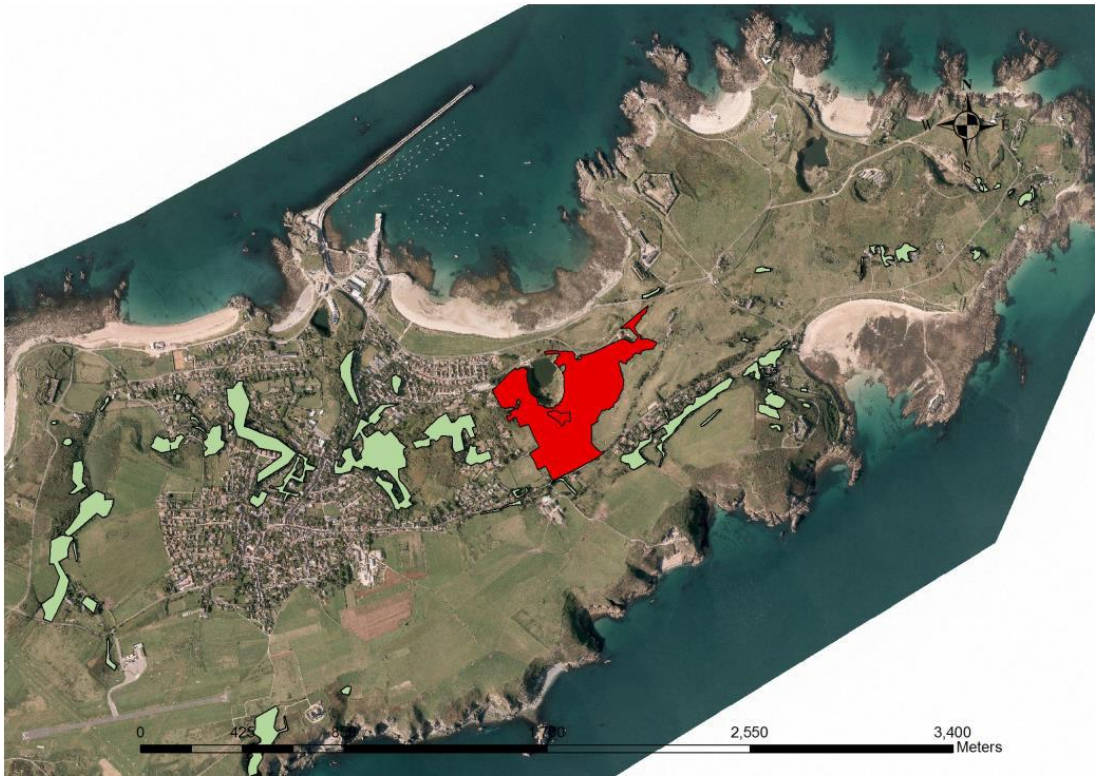

Figure 1 The ACW (red) and the existing mature woodland cover on Alderney (green)

2.2 Land Tenure

Land is owned by the States of Alderney, with two leases: The Alderney Golf Club and telecoms company Arqiva.

3. Site Evaluation

3.1 Soil

Soil is one of the main conditioning factors of the type of vegetation in an area and the composition of trees that will grow on a site is partially determined by the type, pH and nutrient content of the soils.

A survey of the soils was conducted and the results analysed by States of Guernsey Plant Protection Laboratories (Brokenshire, 2011), during which two issues were highlighted: high sodium levels in some sections and low phosphorus levels in others.

Sections of the site closest to the sea have very high sodium (Na) levels, which have most likely been caused by increased salt levels from sea spray. Excess sodium will limit a tree's ability to absorb water and may limit the uptake of other cations (e.g. positively charged ions such as potassium (K)); this will lead to the disruption of membrane potential, cell turgor and enzyme function. These negative effects may be negated somewhat by the presence of readily available calcium (Ca), which allows plants to better maintain potassium transport mechanisms and selectivity of K to Na uptake (Campbell and Reece, 2001).

A large proportion of the site has soils which are poor in phosphorus (P) content. P is a component of certain essential enzymes, including DNA. A deficiency of this macro nutrient will affect processes involving energy storage and transport, leading to poor root growth, bud development, seed development and fruit development. As P is more readily absorbed at an optimum pH value of 6.5-7.5, the impact of low P levels within this range should be less detrimental to growth. In soils with a pH outside of this range, the little P present will be in an insoluble form (Campbell and Reece, 2001). On the other hand, the pH of the site was neutral and fairly constant, with the exception of one section around the Arqiva Communications tower, which contained acid soils with a pH of 5.5-6.0. Conductivity, nitrates, potassium, calcium and magnesium were also monitored, but were found to be within normal limits across the site and no problems were highlighted.

3.2 Habitats

The ACW contains a variety of habitat types, including mixed native and non- native woodland, scrub and glades (Figure 2).
The habitats of the site were classified using the methodology as described in *"The Habitat Survey of Guernsey, Herm and Associated Islands"* (Phase 1 standard: JNCC, 2010), which enabled easy identification of habitats and their importance on a local, national or international scale. The information was later compared and extended with independent surveys undertaken during 2010 (Ralphs 2010 and Henney 2010). Subsequently, the material has been annually updated through field data collected by the AWT's Staff and the use of aerial photographs.

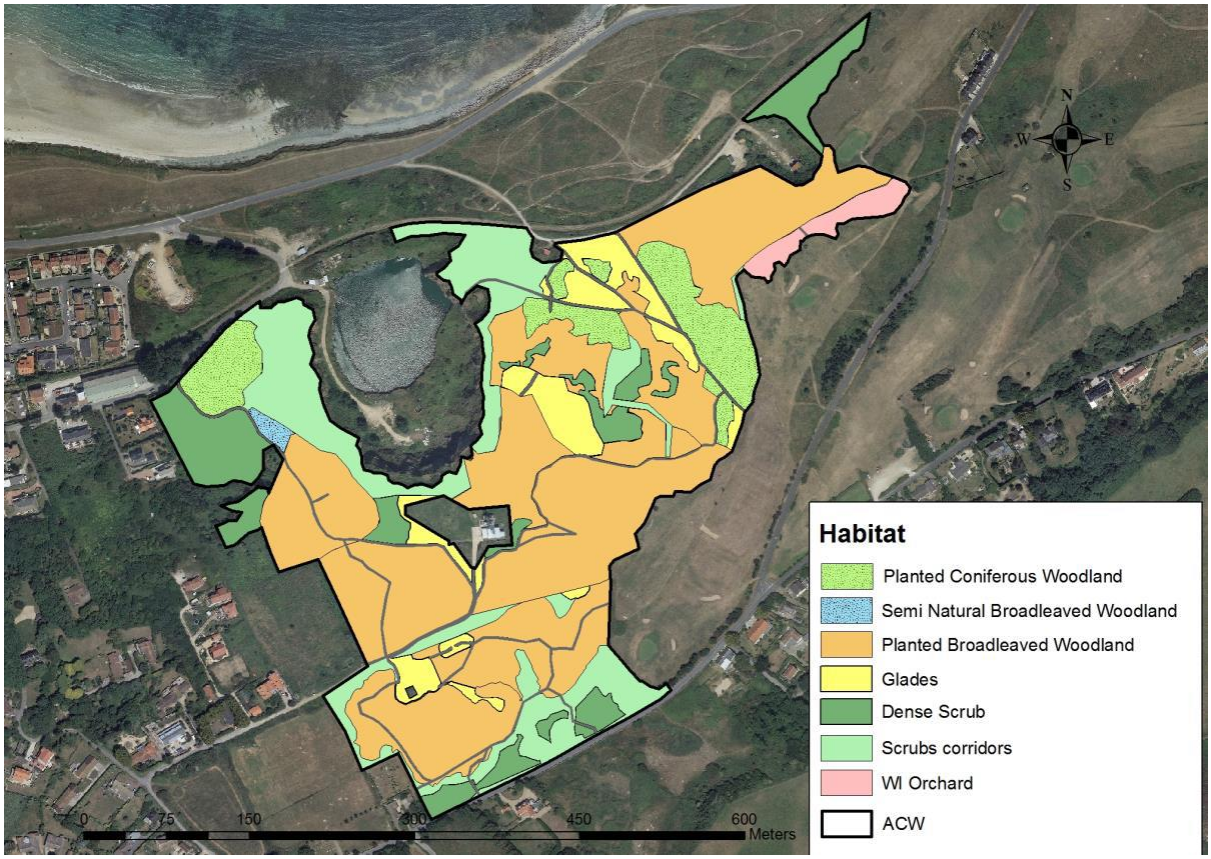

Figure 2. Phase 1 habitat survey of the ACW (Gonzalez 2014)

Floral data was extracted from a Bailiwick of Guernsey Biological Records Centre database, and personal records from on-island botanists (Bonnard 2010). Already present on site are a variety of woodland understorey species; honeysuckle, three-cornered leek, harts-tongue fern, common male fern etc. In conjunction with the National Vegetation Classification system (Rodwell 2006), the current species composition of the site can be used to help inform the species of trees which would be most likely to colonise here through natural succession, and so will be most adapted to the environmental conditions at Les Rochers.

3.2.1 Woodland

A high percentage of the wooded area comprises of plantations of non-native species which were carried out by the States in the post-war years.

a. Native trees

Native woods in the ACW are composed mainly of small trees of great ecological value such as hawthorn and elder scattered along the landscape, and some trees of elm and ash.
As in much of Europe, Dutch elm disease (*Ophiostoma novo-ulmi*) has seriously wiped out a high percentage of mature elms. Close to the footpath from Longis Road, we can find some samples of affected trees.
In 2014, the AWT began involvement in the "Great British Elm Experiment" (The Conservation Foundation 2019), planting an elm sapling whose parent trees have shown a resistance to the

disease for over 60 years, and with the aim to restore native elms across the British Isles. This tree was planted within the Children's area (Fig. 5).

b. Planted coniferous woodland

There are two main areas of coniferous cover, containing Corsican, maritime and Monterey pines, and some single trees spread throughout the ACW.
Currently these conifers have an important role as they provide shelter for newly planted trees, make up a large proportion of the mature tree cover and also provide good nesting grounds for some bird species. However, conifer plantations have clear disadvantages in comparison with native woodland: they are poorer in floral and faunal biodiversity by a light and space restriction in the undergrowth and the acidic nature of the needles reduces the quality of the soil over time. They are also very shallow rooted and thus are susceptible to damage from high winds.

c. Semi natural broadleaved woodland

Alongside the Newton conifer plantation and Rick's Wood is a stand of sycamore that has been actively spreading. This site, known as the "Greenwood area", has previously been the target for coppice management practices in the last .

d. Native broadleaved planted woodland (AWT Planting)

Between 2010 and 2013, AWT planted approximately 10,000 native deciduous trees and shrubs to improve the quality and size of the ACW with the aim, to create a native broadleaved woodland, extending and linking the existing fragments of native woodlands and natural regeneration's habitats.
Broadleaved trees and shrubs were planted mixed, and a variety of native species were chosen such as oak, hazel, rowan, hawthorn and blackthorn among others (Appendix 2 and 3). The woodland was divided into compartments, and planted in stages over this time (Fig. 3).

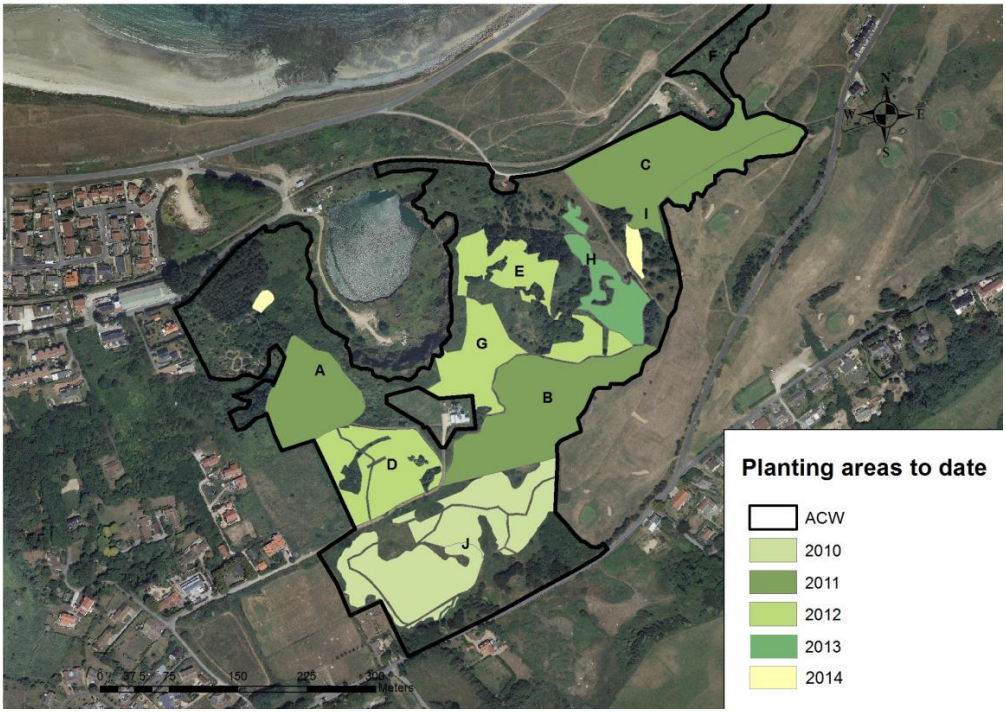

Figure 3 Areas planted with native species to date

In 2012, a small orchard was planted with funding from the Women's Institute. It contains a variety of fruiting trees and bushes such as apples, pears and plum.

e. "Rick's Wood"

This area has been planted and managed by Rick Ball on the States land. It contains a wide variety of species, both native and exotic, and though it does not sit within the ACW site it provide valuable shelter and demonstrates the range and nature of the non-native trees in the Alderney context.

3.2.2 Scrub

Scrub communities are a key component of the Woodland. Dense areas and corridors made up of bramble, hawthorn, blackthorn, ivy or gorse, increase the connectivity of the site, improve the diversity of species of the Woodland and provide food and shelter for a variety wildlife. The composition and structure are a significant factor influencing the diversity of wildlife.
Scrub biodiversity has been enhanced by planting species such as elder, crab apple, holly and rowan. At the same time, because of increases in some species such as bramble, it has been essential to control them to avoid encroachment in other sites.

3.2.3 Hedges

Hedges composed predominantly of hawthorn, blackthorn and hazel were planted throughout the site. These hedges will form wind-breaks for slower-growing trees and provide valuable habitat in their own right. Two hedges have been highlighted for their specific importance:

- The hedge that skirts the lip of Battery Quarry acts as an excellent natural barrier, preventing access to the quarry.
- The hedge that borders the Sand Pit has a relevant importance for wildlife, providing a screen to reduce disturbance.

3.2.4 Glades

There are five areas, throughout the woodland site, containing species-rich grassland which has been maintained by rabbit grazing and trampling (associated with footpaths). Good quality grasslands such as these are a nationally scarce habitat and provide a particularly beautiful landscape in spring. Therefore it is imperative that the AWT acknowledges the need for their long-term preservation.
Among the main threats to glades are scrub encroachment and over- shadowing by trees. The glades also require careful and considered management to conserve their floral diversity.

3.3 Wildlife

The Community Woodland provides a stronghold for wildlife in particular for birds and insects. Several surveys and regular transect walks carried out since 2010 by local experts, AWT staff and volunteers have identified numerous species
The ornithological reports (Riley 2010 and Atkinson 2010) highlighted numerous species of birds using the site. Some of them are known to breed there, and others species are regularly seen in and around the ACW, both hunting and passing over. The development of mature woodland should be beneficial for the majority of these species.
Many different species of moths and butterflies have been recorded as well as bugs, beetles and other insects that like a mixture of woodland and grassland. A summary of the Lepidoptera found on

the woodland site (Wedd 2010) highlighted the presence of several noteworthy species such as Large Tortoiseshell and Dark Green Fritillary to name a few.
The ACW also provides a habitat for many of Alderney's small mammals such as bats, mice and rabbits. The main threats for wildlife are degradation of habitat and disturbance. It is hoped that the ACW Project will eventually provide more suitable habitats for them in medium- long term. On the other hand, potential impacts or risks which could be caused by the on-going maintenance works have been borne in mind, and they will be avoided with proper planning.

3.4 History and Archaeology

The landscape of Les Rochers has been vastly influenced by human activity throughout history. During the 1890's the area was proposed by the Victorians as the location for a large central fortification and a magazine store was built.
For the first part of the 20th century period the northern face of Les Rochers was excavated for diorite, to export from the island, creating Battery Quarry. Remains of much of the infrastructure created to enable the industry, such as the Quarry Gantry, are still present today in the landscape.
During the Second World War this site, designated by the occupying forces as Strongpoint Ho-Hohe, was the location of an anti-aircraft battery which played a key role in the German fortification of the island.
The archaeological potential of Les Rochers was surveyed in January 2011 by States of Guernsey Museum's Archaeologists (De Jersey and Walls 2011). They focussed predominately on the 'huge stones' illustrated in an admiralty map by Captain White in 1824 and again in the Colonel Crease survey from 1883, and which are still present in abundance throughout the site. It has been suggested that these rocks may originate from the north-west, or north of the island, and were moved to Les Rochers by pre-historic man. During the archaeological excavations five test-pits were dug at locations across the site, primarily looking to establish dating evidence in association with the identified 'huge stone' corridors. The results of this work were disappointing as very few finds were made and these associated much more with recent quarrying and World War II history rather than pre- history.

3.5 Amenity Value

3.5.1 Access and footpaths

Les Rochers is situated in what is often referred to as the heart of Alderney. Only ten minutes from the centre of St. Anne, seven minutes from Braye Bay, 12 minutes from Longis Bay and with main roads running to the south and north, it is readily accessible. There are also various access points to the ACW from Longis Road, Newtown Road, the "Scramble Tracks" and the Golf course.
During the last four years, the network of path has been extended almost doubled, as illustrated in figure 5. An additional pedestrian access path from Longis Road has been opened, and in 2013 the "Historic Track" (Fig. 4) was uncovered. New pathways enable access to the amenity features of the Woodland, such as the Observation Platforms, Children's area and the Orchard allowing a full enjoyment of the site.
Maintenance of the tracks and footpaths is carried out by AWT staff and volunteers.

Figure 4 Footpath network of ACW

Pedestrian use is already a key feature of the site. Walkers, dog walkers, horse riders and cyclists as well as groups from St. Anne's School and the Alderney Cubs and Scouts are the main users. Vehicular access is primarily from the Rue de Beaumont to the north and from Longis Road from the south, with areas for parking established at several key points where parking space already exists. However, access on to Les Rochers by vehicles is discouraged.

3.5.2 Features

The ACW provides an interesting link between our historical and cultural heritage and ecological aspects of our landscape. The site has great potential as a recreational resource but also as an outdoor classroom for history and the natural environment.
To date, the following features have been highlighted as being of particular interest to visitors; most having been refurbished or created by AWT staff and volunteers (Fig. 5).

a. Woodland Bunker

A large bunker which lies just south of the Les Rochers track and is a base for events around the woodland. The site provides an area in which training sessions and public events can be held and offers educational opportunities for a wide range of people: schools and children's groups, environmental scientists and anybody who wishes to gain a greater knowledge and understanding of the ACW.

b. Observation Bunker

Its location, on the lip of Battery Quarry, allows enjoyment of beautiful views over Braye Bay from the observation platform. Inside is a sensitively placed information display about the landscape history and wildlife of Les Rochers.

c. Kommandant's Bunker

Situated close to the Woodland Bunker, the Kommandant's Bunker was one of the control centres during the German occupation. Much of the infrastructure remains, but the site is unsafe for visitors and so access is restricted at present.

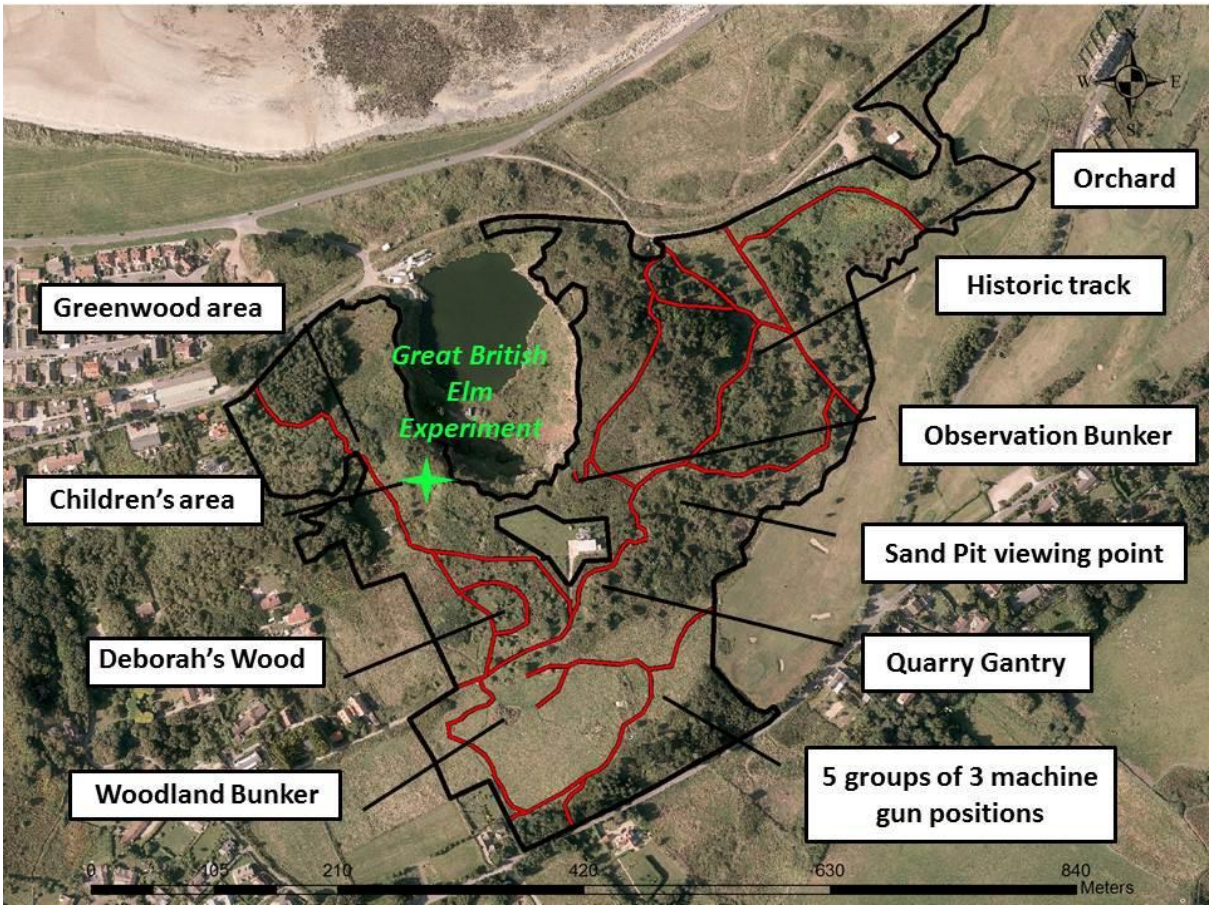

Figure 5 Notable features and areas within the ACW

d. Other German fortifications

Bunkers, mortar pits, and machine gun positions furnish the woodland, and many are accessible to visitors.

e. The upper Quarry Gantry base for Battery Quarry

A relic of the industrial landscape. No work other than clearance has been undertaken here to date.

f. The Rocks

Large stones litter the landscape, giving Les Rochers its name. Several archaeological investigations have been conducted on the site as stated above.

g. The Sand Pit

The area referred to as the Sand Pit has been abandoned since long before the Second World War. Dominated by bramble, hawthorn, elder and blackthorn it is one of the best sites for wildlife, in particular birds. A viewing screen is maintained to facilitate wildlife watching and to reduce disturbance.

h. Children's Area

The Children's area is located to the west of Battery Quarry, between the ridges of two quarry spoil mounds. It is intended that this will be a site where children's groups can hold meetings and educational events, WATCH sessions and special activity days, such as during Wildlife Week, Woodland Week, and Arbor Day. It was planned that children would also take an active part in the area's management.
To date this area, has been partially developed with clearance and access improvement having taken place.

3.6 Utilities Services

Several infrastructures are already established within the ACW. Arquiva Ltd leases an area of approximately 5 ha for telecommunication purposes. AWT needs to maintain undergrowth at a low level to the south of the main telecommunications mast in order to ensure the island's principal link to Jersey is not interrupted. Otherwise, the woodland is perfectly compatible with its daily use. There is also an out of use satellite dish to the west of Battery Quarry. In case this needs to be used in the future again, the trees planted to the north of it were selected to be low growing so any signal is not obstructed.
Public utility providers were contacted to determine the locations of underground pipes, cables and equipment which may be affected by tree planting, either by physical damage from the roots, or as obstructions to access for maintenance works.

The States of Alderney Water Board's utilities through Les Rochers are illustrated in Figure 6. These pipes are UPVC and as such are flexible and should not be adversely affected by the planting. From discussions with the foreman of the States Water Board it has been concluded that at this time it is not possible to design planting schemes accounting for full vehicle access to the pipes as their exact locations cannot be specified

Also illustrated in Figure 6 are the locations of the Alderney Electricity cabling. These are bitumen coated electrical PILC cables and buried to a depth of 0.5-0.6 metres. Due to the hazard of digging near these cables, and the necessity of access routes for maintenance work, planting was avoided within 3 metres either side of these cable routes.

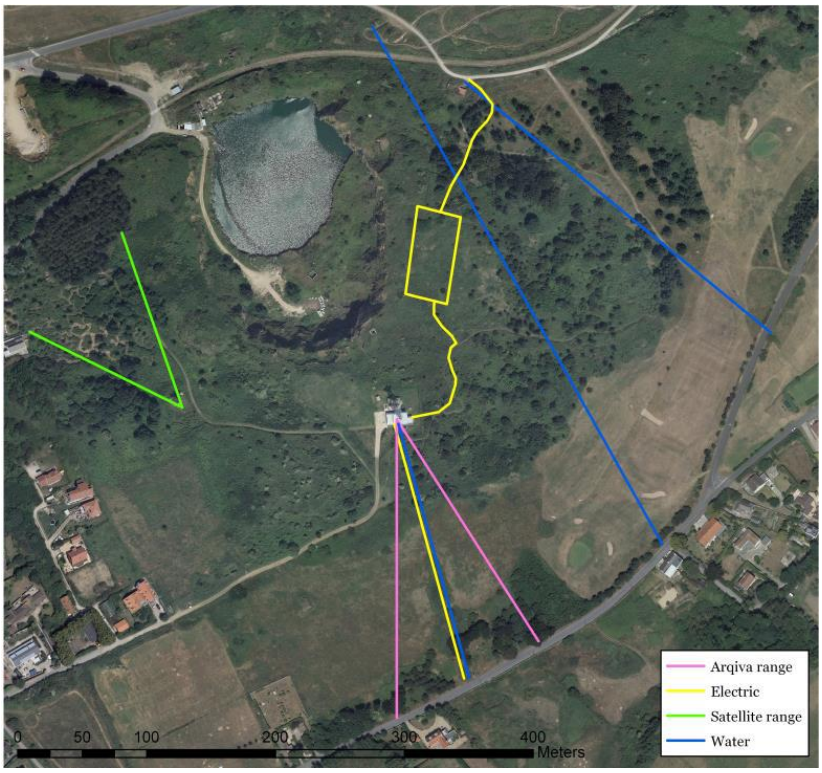

Figure 6 Utilities and services within the ACW (Henney, 2011)

4. Management Aims

The long-term management of the ACW is guided by 3 main aims;

1. **To create a native broadleaved woodland of high ecological and landscape value, rich in wildlife and accessible to the Community.**

2. **To develop the educational and recreational value of the ACW through the provision of facilities and opportunities that promotes a greater understanding and enjoyment of the natural and cultural wealth of Alderney.**

3. **To involve the island's Community in the ACW promoting woodland culture and recovering traditional skills, whilst at the same time, increasing the socio-economic value of the woodland as a source of sustainable material for the future.**

5. Management Objectives

The management objectives are designed to guide the specific management of the ACW for this management cycle and measure the fulfilment of the main management aims.

Aim 1. To create a native broadleaved woodland of high ecological and landscape value, rich in wildlife and accessible to the Community.

5.1.1 Maintain the structural diversity of the site

a. **Managing glades**
b. **Controlling spread of grass**
c. **Controlling invasive/noxious weeds**

5.1.2 Maintain and manage the spread of dense scrub

5.1.3 Develop and implement a grazing plan with the Alderney Grazing Animals Project herd

5.1.4 Continue aftercare and monitoring of planted trees

5.1.5 Collect ecological data about the site for measuring past successes and to inform future management

5.1.6 Enhance areas of native woodland

a. **Replace non-native conifers with native broadleaved species**
b. **Coppice sycamore stand**
c. **Begin thinning planted areas as necessary**

5.2 Aim 2. To develop the educational and recreational value of the ACW through the provision of facilities and opportunities that promotes a greater understanding and enjoyment of the natural and cultural wealth of Alderney.

5.2.1 Undertake surveys of both residents and tourists to develop an understanding of the use of the site

5.2.2 Maintain and improve existing memorial features

5.2.3 Create provisioning for future memorial features

5.2.4 Maintain and improve historic features

5.2.5 Maintain footpaths and access to the site

5.2.6 Provide amenity and recreational facilities in the ACW

5.3 Aim 3. To involve the island's Community in the ACW promoting woodland culture and recovering traditional skills, whilst at the same time, increasing the socio-economic value of the woodland as a source of sustainable material for the future.

5.3.1 Develop and implement an Economic Harvesting Plan for the ACW

a. Selling products from the orchard
b. Develop a range of products from all areas of the wood utilising the skills of locals and visiting specialists
c. Trial harvesting and selling hazelnuts from the various copses
d. Open dialogue with local bee keepers to place hives along the borders of the glades

5.3.2 Using survey data, increase the success of outreach and community engagement

5.3.3 Maintain a safe environment in the ACW

6. Constraints

6.1 Ownership

Site owned by States of Alderney, leased by Arqiva Ltd and Golf Club. Major works must be agreed with the States of Alderney and tenants. This Management Plan has been approved by all three parties and will form the basis of the on-going relationship between them.

6.2 Geography

Poor soil type, invasive species such as bracken and clematis, wind exposure, and maritime conditions are all serious issues for the woodland. The slopes in some areas of the wood may also limit the accessibility for elderly or disabled people.

6.3 Finance

Alderney Wildlife Trust is not eligible for most UK funding, and so the woodland project is dependent on finding Channel Islands sponsorship, States of Alderney support and private donations.

6.4 Time

ACW is the third largest site for AWT after the Longis and Vau du Saou reserves and therefore development of the site is limited by what resources AWT's has available. This constraint will hopefully over time be negated by the involvement of the community.

6.5 Limited skill-base

There is a limited local skill-base for teaching traditional skills and crafts such as spoon making, basket weaving or drystone walling.

6.6 Planning permission

Mature trees are highly regarded on Alderney and the felling of non-native conifers requires planning permission. Similarly, any removal of mature trees may come up against significant local opposition

6.7 Support

Support and turnout for the Greenwood Project was low and the public lathes dismantled. Any further projects may be hampered by a lack of local participation.

7. Implementation

7.1 Maintain the structural diversity of the site

Structural diversity is important for species diversity and maintaining a varied site is an underpinning aspect of the overall ACW management. Care needs to be taken when undertaking conservation actions during sensitive times (April-August) to minimise the disturbance to breeding animals.

7.1.1 Managing the glades

The glades form an important open grassland habitat within the woodland mosaic. To maintain the species diversity in these areas scrub and tree encroachment needs to be controlled. Much of the soil in the woodland contains very poor nutrient levels which may be conducive to creating wildflower meadows in the open areas. Maintenance of a wildflower meadow would require careful management to keep it as a resource for wildlife and the grazing herd.

Actions:

- Maintain the openness of the site
- Attempt grazing in the area using the AGAP herd; being aware of the need to maintain access to the ACW
- Experiment with creating and maintaining a native wildflower meadow using a mixture of native species, suited to the sandy conditions

7.1.2 Controlling grass competition

Grass can quickly out-compete trees for water and nutrients so its growth must be controlled while the woodland is still establishing

Actions:

- Control the spread of grasses in the planted areas using both mechanical and manual cutting

7.1.3 Controlling invasive/noxious weeds

Ragwort can pose a hazard to animals when ingested and under Alderney law (Noxious Weeds Law (Amendment) (Alderney) Ordinance 2001) control and removal must be undertaken by the land owner. Similarly, bracken and clematis can easily dominate an area if left unchecked.

Actions:

- Use conservation volunteer sessions to regularly pull ragwort and dispose far from site
- Cut back bracken and clematis especially from planted areas to prevent the saplings becoming smothered

7.2 Maintain and manage the spread of dense scrub

Dense scrub is a crucial habitat in its own right and maintaining areas of scrub is important for both people and wildlife.

Actions:

- Maintain the current areas of dense scrub
- Prevent the encroachment of scrub into recently planted areas, historic features, paths, and glades
- Improve the scrub at the lip of Battery Quarry as a natural barrier to prevent accidents

7.3 Develop and implement a grazing plan with the Alderney Grazing Animals Project herd

Grazing within the woodland glades could have beneficial effects on the plant and animal diversity of the areas. Bat abundance particularly has been shown to be significantly higher in cattle grazed areas. Guidance should be sought from the Longis Reserve management documents on how best to utilise the herd.

Actions:

- Attempt grazing in the glades with the AGAP herd
- Monitor the effects on plant and animal diversity within the grazed areas
- Maintain access to the ACW; working around the grazing areas

7.4 Continue aftercare and monitoring of planted trees

Without continual care the insides of the tree guards can quickly become overgrown with grass and brambles. Conversely, many trees are now at a stage where the guards should be removed.

Actions:

- Weed in and around the tree guards to limit the competition from grass and bramble. This should be done as a continual effort throughout the year; particularly in summer.
- Remove guards from established trees at low risk of being damaged be grazing, people or being out competed by grass or scrub. If possible, the guards should be removed intact for re-use on other saplings.
- Signs of ash dieback should be noted in the summer to monitor the spread and the mortality rates of trees. The results of these surveys need to be factored into yearly action plans to

appropriately deal with the scale of the problem. Affected areas could either be left for natural processes to regenerate woodland or areas of ash could be entirely removed and replanted with other species; depending on the severity of the infection.

7.5 Collect ecological data about the site for measuring past successes and to inform future management

A number of surveys are undertaken throughout the ACW for plants and animals. The current survey effort should be continued annually and further developed as the woodland matures. The location of the established transects and survey points are presented in Appendix 4.

Actions:

- Undertake regular BeeWalks along the established transects throughout the summer
- A UK Butterfly Monitoring Scheme path is already present in the wood and surveys should be continued following the established methodology should continue as part of the whole island effort.
- Participate in National Bat Monitoring Program surveys in July and develop further surveys if the ACW shows particularly high bat diversity. Bat monitoring should be employed alongside grazing in the glades. Bat diversity has been shown to be significantly higher in cattle grazed areas (Ancillotto et al. 2017)
- Continue with owl monitoring in the woodland. Emphasis should be placed on trying to establish long-eared owl presence on the island
- Continually monitor the floral diversity of the woodland and glades; using the information to support the AGAP management and future planting or thinning practices
- Update the Phase 1 habitat maps of the site at least once during this management period

7.6 Enhance areas of native woodland

The main aim for the woodland was to create a native woodland of high ecological and social value. While large areas have been planted with native species there remains notable areas of non-native species, such as the sycamores in the Greenwood Area and pine trees by Newton Road, which require management to achieve this aim.

7.6.1 Replace non-native conifers with native broadleaved species

It is necessary to maintain mature pine trees for their aesthetic and sheltering value. However, as part of the overall plan for the site they will be slowly felled and replaced by broadleaved species as the planted trees mature.

Actions:

- Progressively thin the areas of conifers in the ACW. The rate of felling will be assessed annually and presented in yearly Action Plans
- Transplant saplings from planted areas where there is overcrowding to the newly cleared areas
- The products of the tree clearance will be included in the Economic Harvesting Plan as firewood or finished products such as benches.

7.6.2 Coppice sycamore stand

The greenwood area contains a number of virginal (un-coppiced) non-native sycamore trees. Rather than replace these trees with native species the aim is to create a coppice rotation in the area with a view to improving biodiversity and producing sustainable products.

Actions:

- Coppice some sycamore trees in the greenwood area to create coppice stools for the eventual development of a coppice rotation
- The poor soil in this area will likely slow the regrowth from the stools. Consequently, the management of this area will be continually assessed.
- Factor the products of this coppice into the Economic Harvesting Plan, either as firewood or finished products from greenwood working

7.6.3 Begin thinning effort in planted areas

Saplings were initially planted at a density that would require thinning and sapling removal as the woodland became established. Towards the end of this 5 year management period some of the first planted areas may require thinning. The thinning effort may be combined with replanting areas of ash trees suffering from ash dieback; depending on the severity of the infection (Action 7.4).

Actions:

- Assess the scale and necessity of thinning in the areas planted 2010-2012 (Fig. 3)
- Re-plant transplanted trees into areas of cleared pines
- Sell removed trees as part of the Economic Harvesting Plan

7.7 Undertake surveys of both residents and tourists to develop an understanding of the use of the site

Previous comments from the public have highlighted a lack of knowledge about the site and its uses. Similarly, to create more targeted publicity, events and features information about why people use the ACW should be collected.

Actions:

- Create a survey for both local residents and tourists as to their level of knowledge about the site and why they use it
- Use the results of this survey to increase awareness of the ACW and improve features highlighted in the survey

7.8 Maintain and improve existing memorial features

Several memorial features form a large part of the ACW and they should be managed not only as part of the overall management but to fulfil their memorial purpose

Actions:

- Maintain memorial features in good order by regularly clearing in and around the sites
- Increase the awareness of these features with sensitively placed signage where appropriate

7.9 Create provisioning for future memorial features

Creating memorial features is an important way to engage with the local community and create a sense of ownership.

Actions:

- Maintain a dialogue with the community
- Provide assistance with the creation of memorial features using staff and conservation volunteers
- Wherever possible create features such as benches from products sources from the ACW, i.e. benches from felled pine trees

7.10 Maintain and improve historic features

The ACW contains a number of historic features including the Observation Bunker and quarry gantry. The presence of these features is a large reason for visiting the woodland and effort should be made to improve the access to, and the impact of these sites.

Actions:

- Regularly clean out bunkers of vegetation and litter
- Cut back scrub around quarry gantry
- Maintain signs associated with these sites and replace if necessary

7.11 Maintain footpaths and access to the site

The AWT maintains over 5 kilometres of path in the ACW and they require constant maintenance to prevent scrub encroachment and deterioration

Actions:

- Perform footpath cuts either by hand or using machinery throughout the year to maintain access
- Liaise with the Terrestrial and Avian Ecologists to minimise the disturbance to breeding animals
- Keep steps in good repair

7.12 Provide amenity and recreational facilities in the ACW

As part of the AWT's management of the site it maintains a number of amenity and recreational features in the site such as the Children's Area and Woodland Bunker (Fig. 5)

Actions:

- Maintain these sites in a good state of repair and cleanliness
- Action 7.11 also applies here
- Incorporate the results of the survey effort (Action 7.7) into providing further amenity features if a need is highlighted

7.13 Develop and implement and Economic Harvesting Plan for the ACW

The economic side of the woodland has been very underdeveloped so far and the long-term success of the project may be boosted by the sustainable harvesting of woodland products for the benefit of the AWTt and community.

7.13.1 Selling products from the orchard

The Orchard was planted with various species of fruit tree in 2014 with some sponsorship from the Women's Institute. The soil conditions of the site have severely retarded the growth of the trees and fruit production. However, with some remedial works fruit harvesting may be possible by the end of this management plan.

Actions:

- Mulch around the trees annually in spring
- Maintain low grassy growth in the Orchard
- Continually monitor fruit trees to evaluate their value as part of the Economic Harvesting Plan

7.13.2 Develop a range of products from all areas of the wood utilising the skills of locals and visiting specialists

Alderney is a small community, and skills and interest for learning traditional woodland skills has previously been quite low. Building upon products from the woodland is an important aspect in the success of the Economic Harvesting Plan.

Actions:

- Continually assess the skills present on the island and whether they can be used to develop woodland products

7.13.3 Trial harvesting and selling hazelnuts from the various copses

Similar to the trees in the Orchard, nut production from the hazel copses has been impacted by the quality of the soil. If hazelnut harvests were successful it could represent a large source of income from the woodland.

Actions:

- Attempt to improve the quality of soil within the hazel copses
- Begin a coppice rotation of hazel trees to increase the potential for hazelnut and timber production

7.13.4 Open dialogue with local bee keepers to place hives along the borders of the glades

Grazing in the woodland glades (Action 7.3) would help to create flower rich meadows and a significant resource for bee colonies. Maintaining hives around the edges of the glades could create a viable source of income for the AWT through the sale of honey and other products. There are a

large number of local bee keepers who already work with the AWT who may be amenable for developing this partnership.

Actions:

- Discuss with the terrestrial ecologist about the possibility and benefits of maintaining bee colonies within the woodland.
- Build a further business relationship with local bee keepers to create a mutually beneficial and profitable agreement.
- Use the bee colonies to help maintain the floral diversity in the glades.

7.14 Using survey data, increase the success of outreach and community engagement

The public surveys mentioned in Action 7.7 can provide useful information on how to better engage the community and promote the ACW.

Actions:

- Use the data presented by these surveys to highlight focus areas for outreach and engagement and areas where it can be improved.
- Improve the publicity of events such as Woodland Week and Arbor Day

7.15 Maintain a safe environment in the ACW

Certain areas of the woodland can pose risks to visitors, i.e. the lip of Battery Quarry, steep unstable paths, and the various bunkers. The AWT should ensure that the ACW is managed in a way that minimises these risks.

Actions:

- Maintain dense scrub around the lip of Battery Quarry
- Maintain signage in areas that pose potential risks
- Maintain footpaths and steps such that they are stable and fit for purpose
- Undertake risk assessments and appropriate action to safeguard staff, volunteers and the public.

7.16 Engage and involve the community in the ACW wherever possible

The AWTs commitment to managing the site is centred around maintaining the woodland as a resource for the community. At every possible opportunity the ACW will involve the local community in shaping the future management of the site.

Actions:

- Publicise events and activities online, in print and on the radio
- Allow opportunities for public input into Management and Annual Action plans
- Provide opportunities for public involvement in AWT activities; such as Arbor Day, Woodland Week and regular Conservation Volunteer sessions

8. Monitoring the Effects of Management

The continual monitoring and survey work undertaken in the woodland by both AWT staff and external specialists effectively captures the effects of management on the ACW.

The management of the ACW is also subject to yearly reviews and action plans which can better incorporate up to date survey data into more tailored management actions.

9. Management Plan Review

This management plan covers the five-year period from January 2019 to December 2023.

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11. Appendices

Appendix 1 Parties involved with the creation and management of the ACW

Alderney 41 Club

Alderney Athletics Club

Alderney Beavers

Alderney Brownies

Alderney Community Sports Centre

Alderney Cubs

Alderney Guides

Alderney Golf Club

Alderney Gravel Co. t/a Blanchard Building Merchants

Alderney Honey Bee Challenge

Alderney Horticultural Society

Alderney Rainbows

Alderney Rotary Club

Alderney Scouts

Alderney Shipping

Alderney Wildlife Trust

Alderney Women's Institute

Arqiva Ltd

Doug Hamon Architects

Featherstone Leach

Guernsey Conservation Volunteers

Kiln Farm Dairy

La Société Guernesiaise

London House

Ormer House School

St. Anne's School

States of Alderney

States of Guernsey Museum Services

The Alderney Society

Appendix 2 Tree and shrub species native to Alderney

A native species refers to those species which live naturally in an area since last Ice Age, without any human intervention.
The following trees and shrub species were present on Alderney from 3780 – 1385 BP, as identified from pollen and macro fossil analysis of samples from the Longis Area (Campbell, 2000). In some cases, species were just identified by genus in the pollen samples.

Alnus glutinosa	Common Alder
Betula sp.	Birch
Carpinus betulus	Hornbeam
Corylus avellana	Common Hazel
Fagus sylvatica	Common Beech
Fraxinus excelsior	Common Ash
Ilex aquiolium	Holly
Pinus sylvestris	Scots Pine
Quercus sp.	Oak
Salix sp.	Willow
Sambucus nigra	Elder
Tilia sp.	Lime
Ulmus sp.	Elm
Cornus sanguinea	Common Dogwood
Frangula alnus	Alder Buckthorn
Viburnum sp.	
Sorbus sp.	

Appendix 3 Species planted in the ACW and their native status in Alderney

Planting schemes were properly planned to ensure an ecological, social and economic development of the woodland resource.
Tree selection was one the most important decisions and it was undertaken taking into account the following criteria:

- Create a native woodland.
- Improve the biodiversity in the ACW, i.e. replace species of poor ecological value or non-native trees.
- Ensure species chosen are highly suited to the particular conditions of the island to allow best survival rates. Screen and match species to soils, pH and depth, and taking in account the weather conditions such as wind exposure.
- Ensure species selection does not conflict with existing habitats and wildlife, and public interests.

Ash[1]	*Fraxinus excelsior*
Downy Birch[2]	*Betula pubescens*
Silver Birch[2]	*Betula pendula*
Holly[1]	*Ilex aquifolium*
Hornbeam[1]	*Carpinus betulus*
Small-leaved Lime[2]	*Tilia cordata*
Common Oak[2]	*Quercus robur*
Evergreen Oak[2]	*Quercus ilex*
Hazel[1]	*Corylus avellana*
Hawthorn[4]	*Crataegus monogyna*
Blackthorn[4]	*Prunus spinosa*
Rowan[2]	*Sorbus acuparia*
Guelder rose[2]	*Viburnum opalus*
Crab apple[3]	*Malus pumila*
Field maple[3]	*Acer campestre*

[1] Alderney native tree species (see Appendix 2).

[2] Species included in the Alderney's native species just by genus. In these cases, the species were chosen on account of them being native in the Channel Islands, the UK and parts of Europe.

[3] Species included in the native trees list of the Channel Islands and therefore are adapted to the weather and soil conditions of the island.

[4] Species that were included in the planting scheme in addition to native species, due to their high wildlife value and the fact that they are native in the UK.

Appendix 4 Details of survey transects and points in and around the ACW