

Alderney Community Woodland Development Plan 2011 - 2014

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DEVELOPMENT PLAN

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INTRODUCTION

Over the next three years, Alderney's community is planning the single largest landscape change to the island to have been undertaken since the Second World War with the aim of creating a stronger future for our community. The Alderney Community Woodland (ACW) aims to be a positive focal point for our island community, a haven for wildlife and a sustainable resource for future generations. The project has already spread out to touch and draw in many individuals, groups and organisations (see Appendix 1).

Only a few thousand years ago Alderney was a wooded hilltop 40-50m high viewed to the west of what is now Cap de la Hague, just 13km distant. After its separation from the Continental mainland Alderney's 9km² land area became so strategically important it was disputed, and variously held, by the Romans, Normans, British and Germans (Gander).

Alderney's diverse historic uses have created a cultural landscape rich in wildlife. Yet whilst the island is home to stunning grasslands, and magnificent heaths, it 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). The island's small scrub woods are often non-native and few are of particular importance for wildlife, amenity or offer much in the way of natural resources. On completion of the ACW, it is intended that woodland cover on the island will have been doubled.

The Alderney Wildlife Trust (AWT) is the driving force behind the development and is heavily involved in resourcing the ACW. The woodland, however, is being developed in partnership with a number of closely involved groups, societies, schools and businesses (see Appendix 1).

The ACW Project was first proposed early in 2009 as a response to the general assessment of habitat cover undertaken by the AWT at that time. Having received strong support from the States of Alderney at this early stage, more detailed thought was given to the project throughout the year with initial proposals for the four year programme being brought to the General Services Committee for consideration in December 2009. At this time the Committee agreed unanimously to support the proposal through the use of States of Alderney owned land, the provision of some labour and a limited grant allocation.

Due to limited local resources a phased approach to establishing the Woodland was agreed upon.

- In year 1 effort was concentrated on the establishment of concept, aims and objectives. Alongside this a limited level of planting was undertaken to develop experience in planting on this site. An initial public consultation was undertaken in summer 2010 which received wide ranging support from the general public and local organizations, along with suggestions and guidance which were incorporated into the planning process
- Year 2 was used to establish a development plan and draft Annual Action Programme (outlining year-to-year works) and full public consultation sought on the plans prior to their agreement by the States of Alderney. The level of site clearance and subsequent planting was also increased in preparation for future work.

This Development Plan will describe those actions already undertaken, and will set out the goals and objectives of the Woodland and its development over the next three years. Parallel to this an annual ACW Action Programme will be developed and reviewed with the support of the States of Alderney

AIMS AND OBJECTIVES

The ACW Project aims to create a large, centralised, woodland habitat planted with native broadleaved species, accessible to the island community.

The project will provide a focal point for the residents and visitors and will offer a new perspective on island life through Alderney's cultural and natural environment.

The development of the Woodland has been focussed within three core aims: wildlife, amenity and resource.

A wooded backbone

The Woodland will provide a stronghold for wildlife, bridging the gaps between existing habitats and helping to protect our island's environment for the future.

A heart for our community

It will offer a focal point for the island's residents and visitors, and which offers a new perspective on island life through Alderney's cultural and natural environment.

The sinew that sustains our island

The woodland will help Alderney preserve and develop its natural assets in a renewable way and in doing so offer us the opportunity to will make our island a more sustainable place for future generations.

EVALUATION OF SITE

Les Rochers was selected as the ideal location for the development of a native broadleaved woodland as it is situated in the middle of the current island woodland cover, and its development will establish the connection of the 'wooded backbone' of the island, as illustrated in figure 1 below.

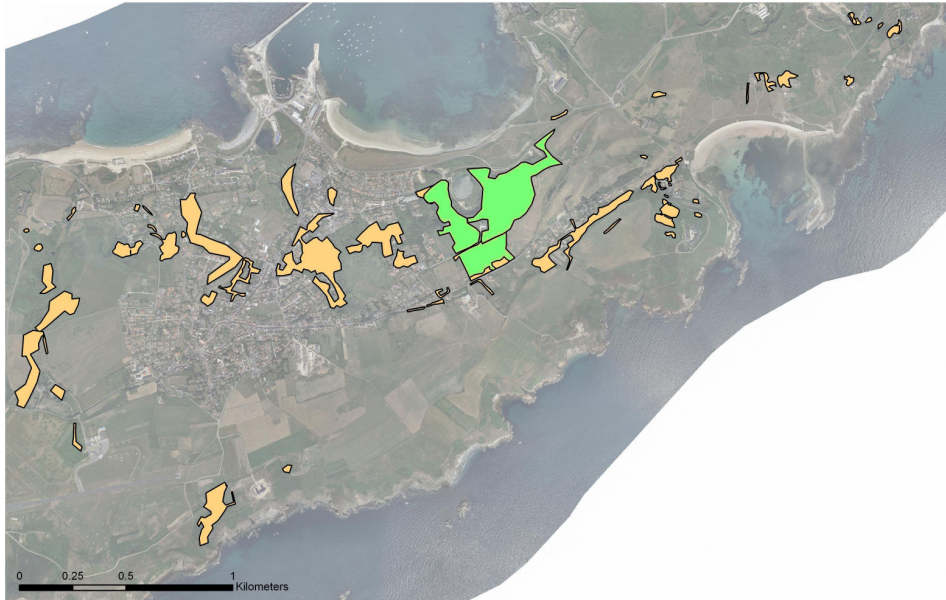


Figure 1. The existing mature woodland cover on Alderney (orange) and the Alderney Community Woodland site (green)

The ACW is being developed over the 17ha site at Les Rochers (figure 2) with permission of the land owners, the States of Alderney, and the current site tenants Arqiva Ltd and Alderney Golf Club.



Figure 2. An outline of the ACW site.

Before any planting or public consultation, a desk based and field based survey of the site was undertaken, the results of which are outlined in the following sections.

ECOLOGY

The habitats of the site were classified using a nationally accepted survey methodology (Phase 1 standard; JNCC, 2010) (figure 3); which allows the easy comparison of habitats throughout the island and makes it possible to readily define whether they are of local, national or international importance. Two separate, independent surveyors undertook this during 2010; Ralphs (2010) and Henney (2010). The dominant vegetation classification was Dense Scrub; a combination of brambles, gorse and blackthorn, often with an ivy understorey.

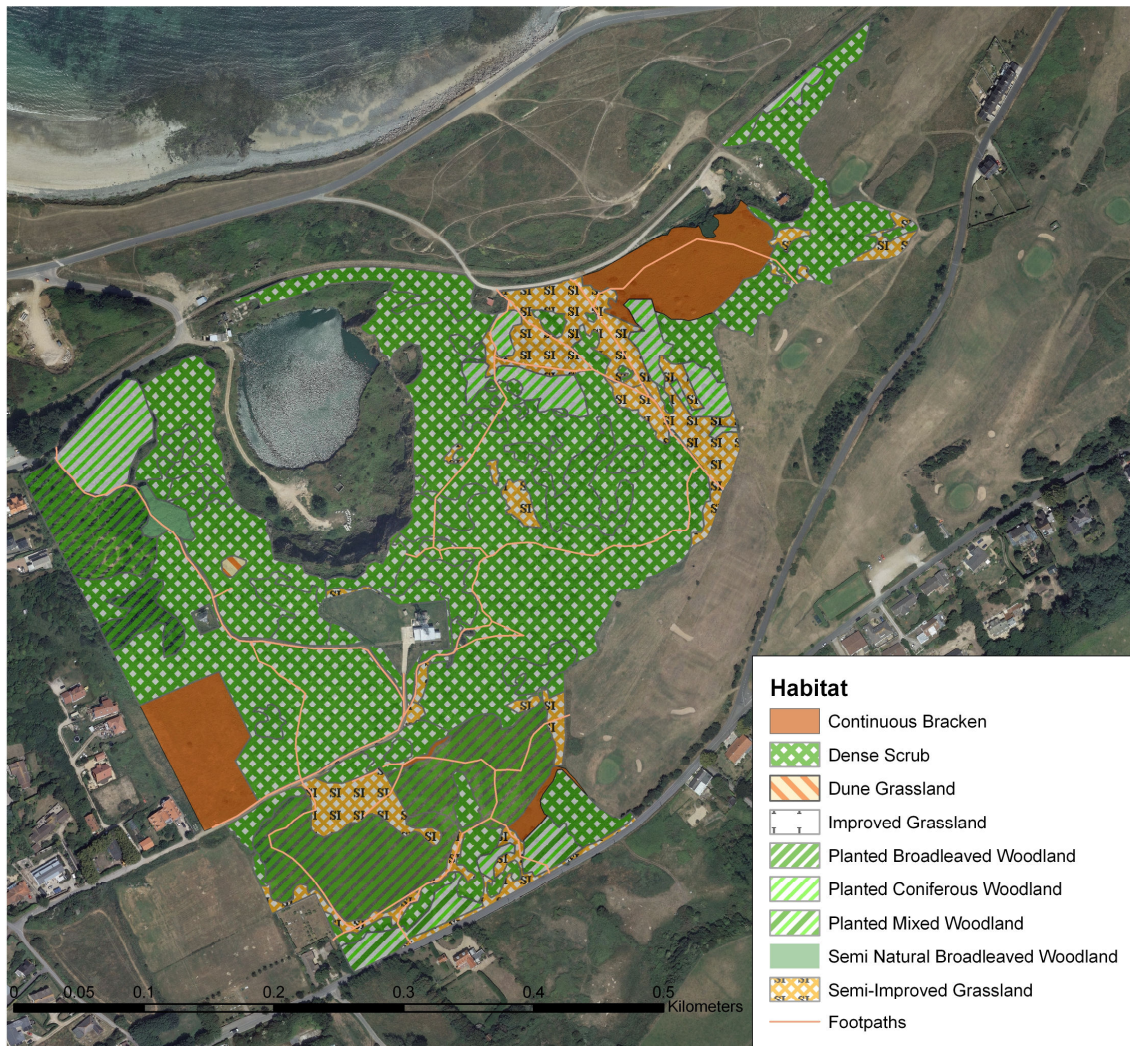


Figure 3. Phase 1 Habitat Classification of the site (Henney, 2010)

Sections of the area are already quite heavily wooded. There are coniferous plantations of non-native, introduced species such as Corsican, maritime and monterey pines, a large stand of sycamore, and elder and hawthorn are frequent throughout the dense scrub.

Intermittently, between the scrub and woodland, are glades of species-rich grassland which are maintained as such by rabbit grazing which prevents scrub encroachment. These small patches of grassland are remnants of nationally threatened habitats, which are highly valued and should be protected.

The desk based survey of Les Rochers encompassed ornithological, floral and invertebrate records.¹

The ornithological reports (obtained from Riley, 2010 and Atkinson, 2010) highlighted several important species of birds using the site. The development of mature woodland should be beneficial for the majority of these species, with the exception of White Wagtails, Meadow Pipits, Lapwings and Skylarks. The initial clearance work may disturb breeding Bullfinches in the area, but it is hoped that it will eventually provide more suitable habitats for them. The potential impacts on these species were consequently borne in mind when creating the Development Plan.

A summary of the lepidoptera found on the woodland site (Wedd, 2010) highlighted the presence of several noteworthy species; Long-tailed Blue, Large Tortoiseshell and Dark Green Fritillary to name a few.

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; bluebells, 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.

SOILS

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 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. These problems will need to be rectified before planting.

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).

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. However, these soils are not expected to be acidic enough to have detrimental affects on tree growth.

¹ Full results can be provided upon request from the Alderney Wildlife Trust.

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.

HISTORY AND ARCHAEOLOGY

The landscape of Les Rochers has been vastly influenced by human activity. During the 1790's the area was proposed as the location for a large central fortification and a magazine store was built. During the first part of the 20th century the northern face of Les Rochers was excavated for diorite, which was exported from the island, creating Battery Quarry. The remains of much of the infrastructure created to enable this industry, such as the quarry gantry, are still present today. During the Second World War this site, designated by the occupying forces as Strongpoint Ho-Höhe, was also the location of an anti-aircraft battery which played a key role in the German fortifications of the island.

The historical features have been mapped using 1945 aerial photographs, historical maps, plans from Festung Alderney (Davenport, 2003) and ground truthing supported by GPS mapping of existing structures.

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. In order to investigate this further, an excavation of several deep set stones and collections of rocks will be undertaken later this year in conjunction with the Alderney Society.

UTILITIES

Public utility providers were contacted to determine the locations of underground pipes and equipment which may be adversely affected by tree planting, either by physical pressure from the roots, or as obstructions to access for maintenance work.

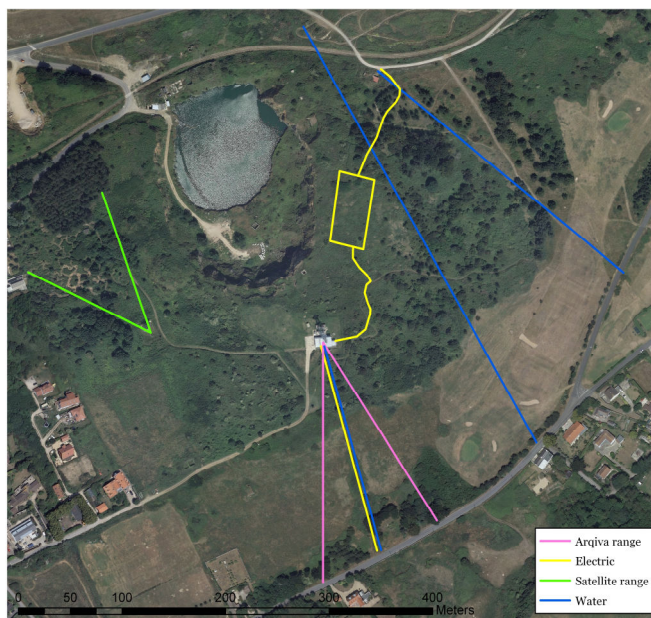


Figure 4. The utilities within the Alderney Community Woodland site. The exact site of the electric cable within the yellow box is unknown, but will be located following further clearance work.

Arqiva Communications Ltd leases an area of approximately 5ha. on Les Rochers for telecommunication purposes. Arqiva has been extremely supportive in its response to the ACW but has advised the need to maintain lower level planting to the south of the main telecommunications mast in order to ensure the island's principal link to Jersey is not interrupted. There is also an isolated satellite dish to the west of Battery Quarry. This is currently out of use, but should it need to be used in the future, the trees planted to the north of it will need to be low lying so any signal is not obstructed.

The States of Alderney Water Board's utilities through Les Rochers are illustrated in figure 4. 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 4 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 will be avoided for three metres either side of these cable routes.

AMENITY VALUE

Les Rochers is situated in what is often referred to as the heart of Alderney. Only 10 minutes walk from the centre of St. Anne, seven minutes from Braye Bay and 12 minutes from Longis Bay and with main roads running to the south and north, it is readily accessible. However, lying in Alderney's greenbelt the site is far enough removed from local dwellings to feel comparatively remote and undisturbed.

At present the area is utilised by walkers, dog walkers, horse riders, cyclists and, for a limited period each year, by groups from St. Anne's School carrying out orienteering. Due to the scrubby nature of the site access is currently restricted to a few existing tracks and footpaths, which are jointly maintained by the States Agricultural Team and the Alderney Wildlife Trust. It is hoped that by clearing large amounts of the scrub and opening up new footpaths the access to the site can be greatly improved.

Immediately adjacent to the site are the scramble tracks and Alderney Golf Club's course. These are important local amenities and due consideration will be given to them when designing access routes and planting schemes.

RESOURCE VALUE

The only significant natural resource as yet identified within the site is a supply of utilisable wood. This comes predominately from the fallen branches of the pines in the north east area of the site, but also a large amount could be obtained from the gorse scattered throughout. Observations indicate that various island residents are already making use of dead wood as a fuel source, with and without formal permissions.

Unfortunately as the price of fuel rises, so does the demand for this natural resource, and less is left available as dead wood which is an essential micro-habitat for a large array of invertebrates, fungi and lichens (Jansson, Krus and Ranius, 2005). Existing woodland on the site consists of only 3.0ha., much of which is sporadic planting, consisting mainly of a variety of pines. These species are not suitable for management by coppicing or pollarding and if local illicit harvesting becomes more prolific, the health and cover of existing trees will rapidly diminish.

Therefore this use of local resources can not be identified as sustainable and is even in the short term damaging to the local wildlife within the site.

Despite the challenges of this site, such as the uneven surfaces making clearance more difficult, nutrient deficiencies in the soil and the presence of vast archaeological artefacts, Les Rochers is dominated by a species poor, locally common habitat – dense scrub. As such it is an ideal site for development into a diverse, locally scarce habitat – woodland. Furthermore, due to its situation within the island, it will also provide a conduit connecting woodland sites all over the island, which in time will become interconnected with wildlife corridors.

Finally, Les Rochers is, and without sustained intensive improvement will remain, of limited agricultural use due to the nutrient imbalance of the soils. Thus the development of a wood on this site will not devalue the land for other uses.

DEVELOPMENT PLAN

WORK TO DATE

As discussed in the introduction, work on the creation of the woodland began during 2010, with a public consultation, site clearance and the first phases of planting. This work, together with future actions, are discussed in further detail below.

SITE PREPARATION

At the end of 2010 an excavator was used to begin the clearance work and establish access through the dense scrub for the first time in over 40 years. During this process attention was paid to ensuring minimum damage was caused to existing tree cover, including hawthorn, blackthorn and elder trees, or to archaeological features such as German bunkers and stones with possible historical significance (see Archaeological section above). Following this, in early 2011, a tractor mounted topper and flail was used to further reduce the cover of brambles in certain key areas.

ANIMAL GRAZING

In order to develop a more sustainable, and less intensive clearance programme, consideration is being given to the use of local livestock (primarily pigs loaned from Tess and Alan Woodnutt) which would be used to graze certain important areas of the site for the initial 3 years as part of the site clearance regime. The use of such livestock in this way will allow some areas for plantation to be completely free from bramble cover, as illustrated in figure 5 below. This will reduce the need for mechanical clearance, remove the need for chemical control of brambles (which may otherwise be required for the three years following planting whilst the trees are establishing) and will also have a beneficial effect on the nutrient levels in the soil. A study into the use of pigs for clearing bracken (Randall, 2006) also found that they do not have a negative impact on the regeneration of trees or on the growth of herbaceous plants which regenerate from seed stock remaining in the soil.



Figure 5. Illustrating the affect of pig grazing on dense bracken at Dunlossit Estate, Isle of Islay (Randall, 2006)

Any livestock use will meet the AWT's commitments to conservation grazing, which include the maintenance of public access, use of temporary fencing and high level of animal welfare. Over the past eight years these practices have enabled the Trust to successfully graze over 20ha of public land, whilst increasing public access.

MECHANICAL CLEARANCE

Further clearance will be needed on areas where livestock would not be able to be grazed. Some of this may be mechanical, with the use of flails and toppers, whereas some will require hand clearance, such as around existing trees and more inaccessible areas. This work, which will continue for the following three years, will be conducted by local volunteers and Trust staff.

SOIL IMPROVEMENT

As discussed during the site evaluation, the soil of Les Rochers are deficient in phosphorus levels which may result in poor tree growth. The areas which may be grazed would have their phosphorus levels increased by the animals' manure. Unfortunately, this would not be dispersed evenly throughout the grazed areas and may not be in a form accessible to the trees for a few years. One cost efficient option of addressing the nutrient deficiency is the application of bone meal as a base dressing to the site (McCutcheon, 2011). As this is a natural product it also has a lower carbon footprint than artificial fertilisers. This will be applied through the soil profile to a depth of 25cm prior to planting each section. Alternative substances for application are still being explored with assistance from various silviculture experts.

ACCESS AND FOOTPATHS

The choice of Les Rochers site for the ACW was largely due to its strategic location close to St. Anne and central to all other sites on the island. The aims of the ACW include the need to ensure it fulfils an amenity role and as such access is vital.

As pedestrian use is already a key feature of the site and given the ACW's aim to encourage the areas use by walkers, an additional pedestrian access path from Longis Road will be established in co-ordination with the States Engineer. A pedestrian access route directly from St. Anne is also being considered; and will hopefully, if complications with land ownership are overcome, be created during the next three years.

The network of paths through the site has been extended as illustrated in figure 6. These pathways will enable access to the amenity features of the Woodland, such as those included in the Historical Trail (see below), the Orchard, the Observation Platforms and to enable the public to enjoy larger areas of the site. Most footpaths are likely to be small, rough paths with little formal construction, however we feel it will be beneficial to look into the feasibility of maintaining a main access route for disabled access.

Access on to Les Rochers by vehicles will be discouraged. It is proposed that vehicular access will be primarily from the 'Lower Rd' to the north and from 'Longis' Rd' from the south, with areas for parking established at several key points where parking space already exists.

The track and entrance to the woodland is currently in a poor state. It is not suggested that this should be repaired during the development phase of the Community Woodland, but it will be considered during the creation of a Management Plan for the woodland, scheduled to be produced in spring 2014.



Figure 6. Access routes and footpaths through Les Rochers.

For health and safety reasons, access to Battery Quarry will be prevented by the planting of a dense hedge, placed 20m from the quarry edge, behind which the thick brambles and scrub will be left to further deter access.

FEATURES

The development of the ACW is not only focussed on the planting of trees, but on the creation of many other features which will substantially increase the amenity value of the site. These features and their development are outlined below.

CHILDREN'S AREA

To the west of Battery Quarry is a small hollow, enclosed between the ridges of two quarry spoil mounds. It is proposed that this area will be utilised as a 'Children's Area', where children's groups with members of all ages can hold meetings, educational events and activity days, such as Woodland Days held during Wildlife Week, Wildlife Weekend, Arbor Days and WATCH sessions. It may also be possible for Children's groups to become involved in the areas management.

This area was impenetrable due to dense brambles, blackthorn and hawthorn until Arbor Day in February 2011, when the local volunteers and Guernsey Conservation Volunteers (GCV) cleared the enclosure by hand. The following actions need to be taken to allow this feature to be completed;

- The floor, consisting of sandy ground, needs to be levelled with the use of a JCB.
- Trees will be planted around the slopes of the clearing, this will increase the 'woodland' feel of the area and also prevent any access to Battery Quarry.

- The access route into the clearing will require levelling and subsequent sensitive planting to create a discrete attractive approach. This will also allow easier access from the main path.
- Benches, or logs, will be placed around the clearing to provide seating.
- Consideration is being given to other features requested by the stakeholder groups including the creation of dedicated facilities. This will, however, only be undertaken with the full support of the tenant and in conjunction with the States of Alderney.



Figure 7. The locations of some of the features of the woodland.

These works are scheduled to be completed by November 2011, and will be carried out by local conservation volunteers with assistance from local tree surgeons and contracted excavation workers.

OBSERVATION PLATFORMS

Les Rochers forms part of a ridge that runs northeast to southwest along the centre of the island. During the initial consultation phase concerns were raised as to the potential negative impact of tree planting on certain views enjoyed as you pass through the site. To ensure these views are not lost the development of two observation platforms is being proposed, coupled with sensitive planting along sight lines and footpaths. The first platform, to be located on top of the Woodland Bunker, and will provide 360° views from Mannez to St Anne and a second platform is planned over a German fortification on the rim of Battery Quarry, which provides a beautiful view over the quarry, Braye Bay and across to the breakwater.

These platforms will not be additional structures, but will utilise, and make safe and accessible, current structures.

The observation platform on top of the Woodland Bunker will be created in conjunction with the Woodland Bunker time schedule (see below). The following works need to be undertaken:

- Level off slope, ensure it is stabilised, cover with top soil and sow grass seed from a local, reputable source.
- Cover the entrance to the exterior walkway with light polycarbonate covering to reduce the amount of rain and debris entering the bunker and to allow light to penetrate the stairwell.
- Put in steps and a handrail up to the top of the bunker
- Over the course of this year, collect local seeds to scatter over the grassed slope and convert it into native, species rich grassland.

Local volunteers and Trust staff will carry out this work. Skilled professionals will be contracted wherever necessary to ensure building regulations and Health and Safety standards are met.

The work to the observation platform at Battery Quarry will be done in conjunction with the bunker's restoration for the Historical Trail.

- The routes of access to the bunker and platform will be altered, so it can only be entered via the southern entrance (preventing access to Battery Quarry rim).
- Access routes to the lower bunker will need to be cleared and joined to the trench system (see Historical Trail section), and the slope to the top of the bunker stabilised.
- Ladders and handrails will need to be re-attached inside the bunker.
- Sympathetic fencing will need to be erected around the quarry edge of the platform.
- The brambles and gorse around the edge of the view point may need to be cleared regularly to ensure views are not obscured.
- All other restoration work on the bunker will be described below.

Attachment of the ladders and handrails will require a skilled professional. All other works will be done by local volunteers and Trust employees.

VIEWING POINT OVER THE SAND PIT

The area referred to as the Sand Pit has been abandoned since long before the Second World War (The Alderney Society, 2011). It is now dominated by bramble, hawthorn, elder and blackthorn and is a very rich habitat for a variety of bird species. In order to maintain this, and to keep disturbance to a minimum, no work will be performed within the site and access to it will be prevented.

A hedgerow, predominately of fruiting trees, will be planted in November this year. This will be used to attract birds into the Sand Pit and to provide them with shelter. During Arbor Day, February 2011, a willow screen was woven overlooking the Sand Pit and viewing points will be inserted to give birdwatchers' sight of the birds within the Sand Pit, without disturbing them.

Ongoing maintenance will be required to prevent scrub from obscuring the view through the willow screen, and to maintain the willow screen itself. Depending on the aftercare given, the willow screen may need to be rebuilt in subsequent years.

WOODLAND BUNKER

The German bunker which lies just south of Les Rochers track (see figure 7) will be used to provide an area from which training days can be held, and to provide a base for outings around the woodland. As there is no other extensive Broadleaved Woodland of the kind being created through the ACW existing on Alderney, the site offers educational opportunities for a wide range of people; school and children's groups, environmental scientists, apiculturists, tree surgeons, and anybody who wishes to expand their skill base

and try coppicing or other woodland management techniques. Due to the archaeological and historical aspects of the site, teaching of the history of Alderney and the Channel Islands could also be held from this bunker.

Refurbishments have begun on the bunker; the entrance way was cleared at the beginning of 2010 by local conservation volunteers and Trust staff. The following work will be carried out, with sponsorship from Blanchard's Building Merchants, in time for its opening during Wildlife Week from the 28th May 2011.

- Walls will be painted.
- Hardcore will be laid and compacted to produce a level, durable floor.
- Shelving will be erected round the inside of the bunker.
- 12v battery powered lighting and solar panels will be installed.
- A wooden framed window with removable, external ply for protection will be inserted into window.
- Whiteboards or chalkboards will be attached to the walls for use during educational events. It may also be beneficial to collect educational literature on the main topics likely to be covered in educational days, if funding can be secured.
- For the exterior works on the bunker see the Observation platforms section above.

These works will be conducted by skilled workers (joiners and electricians) and where possible by local conservation volunteers and Trust staff.

NATURAL TRAIL

At various points along the footpaths intertwining through the woodland, 'interpretation points' will be erected with details of the important ecological features of the woodland. The details of these points are still under discussion but they are likely to include an amenity feature (e.g. brass rubbing plaque) and educational information on particular aspects of the woodland - trees, birds, insects, etc. These features will be discrete and so may also be used as a 'treasure trail' for children's groups.

It may be best to develop the nature trail once the woodland has grown, so that features which have become established can be included.

HISTORICAL TRAIL

As discussed earlier in this document, Les Rochers contains an expanse of historical and archaeological importance across three distinct time periods;

- Neolithic stones thought to have been possibly moved there by human activity from the western or northern reaches of the island,
- remnants of Victorian quarrying; the Sand Pit, Battery Quarry and quarry gantry base,
- and, most noticeably, the location of a German strongpoint and Flak battery during the Second World War.

It is imperative that these remnants of human habitation which enrich Alderney's cultural heritage are incorporated into the Community Woodland Project.

An historical trail will be created highlighting some of the most significant features on the site with the support of the Alderney Society. With its assistance, nine features have been selected for inclusion in the trail. These will be restored and refurbished where possible, and sensitively placed information points erected.



Figure 8. Locations of some of the features of the Historical Trial and the Kommandant's Bunker

The following is a preliminary list of features for inclusion (illustrated in figure 8):

- 1-5 German fortifications; bunkers, mortar pits, machine gun positions etc.
- 6 Trench system, linking a bunker with the observation bunker overlooking Battery Quarry.
- 7 The upper quarry gantry base for Battery Quarry
- 8 The Sand Pit
- 9 Neolithic stones (if found to be significant)
- 10 Machine gun position with last remaining example of a Channel Island gun mounting

Schedule of works:

- An excavation led by Guernsey Museums Archaeologists, and sponsored by the Alderney Society is scheduled for summer 2011 which will attempt to determine the historical importance of the stones at Les Rochers. If they are found to be of neolithic origin they will be included as a feature in the Historical Trail.
- The remnants of the Battery Quarry gantry will be included. No major work will be carried out on it, but the dense scrub which is encroaching over it may need to be cleared to expose more of the remaining gantry structure.
- Various bunkers and German fortifications have been identified as of particular interest and so may also be included.
- These features will be isolated and the information points for them will be compiled in conjunction with the Alderney Society. Signs will be enclosed in wooden display

boxes which will require opening to view their contents, thus blending in with the surrounding woodland and so remaining inconspicuous. Footpaths may need to be created to these features, and will need to be maintained.

It is hoped that this trail will be developed during the next three years (2011 – 2013), with an excavation of the stones of possible neolithic origin scheduled in for summer 2011. The various features will need to be restored during this time. It is envisaged that two or three should be restored each year, probably during summer.

It is hoped, if additional funding can be secured, that the Kommandant's Bunker will be the focal point of this trail. This is discussed in further detail below.

KOMMANDANT'S BUNKER

The restoration of the Kommandant's Bunker is a sub-project of the ACW, which originates from the States of Alderney's desire to see this historic construction restored. Were the bunker to be refurbished it would provide a valuable, informative, accessible, historical feature within the woodland and might be used as the basis of the Historical Trail. To enable the work necessary to ensure it is restored to a high standard, additional support and funding will be needed.

ORCHARD

This area of the woodland, sponsored by the Women's Institute, will be planted with a variety of fruiting trees and bushes. Although the exact species list has not yet been defined, it will be a combination of common fruits; apples, pears, blueberries, and rarer fruits which have fallen out of common use in recent years; medlars, quince etc. This section of the woodland will be the only area of the ACW which does not contain tree species native to Alderney, so to ensure it is in keeping with the 'native ethos' of the woodland, varieties with local, cultural ties to the island will be obtained where possible.

This orchard will be included in the events schedule for 2011's annual Blooming Alderney week. Educational sessions will be held at the site and there will be an appeal for the public to donate cuttings of local fruit trees. Research will be conducted by the Alderney Museum into the presence of any fruits or varieties with historical or cultural significance to Alderney.

Planting of the orchard will begin during 'Woodland Week', November 2011, before which the species lists need to be compiled and any cuttings of local varieties need to be cultivated.

BEEES

Work is continuing into the feasibility of allowing local Apiculturists to keep bees on the site. It is hoped that three hives can be placed throughout the site, which would be situated at least 50m from footpaths to reduce the likelihood of disturbance by members of the public, and information boards will be erected within the Woodland Bunker. These hives would be used for educational events for both adults and children wanting to learn more about the ecology of bees and lessons on how to keep them, and the community can become involved in the hives management. The Health and Safety requirements to enable an observational hive to be placed within the Woodland Bunker are currently being explored. This would allow the inner workings of a bee hive to be visible to the public.

MEMORIAL SCHEME

During the initial consultation with the States of Alderney, the Treasury Office requested that the ACW project take on some of the traditional responsibility normally assumed by the States for the provision of memorial features on Alderney.

Traditionally, memorials have been undertaken by the provision of public benches. Over time, however, the total number of benches on the island has grown to barely sustainable levels given the continual need for maintenance. Since the ACW project is still in the early stages of its creation, and as any memorial feature needs to be sensitively managed, much consideration has been given to the provision of specific personal memorials. Memorial schemes within woodlands traditionally focus on the planting of trees. Unfortunately, due to the necessary management of the woodland, the preservation of individual trees cannot be guaranteed. With this in mind, a range of potential alternatives have been considered under the single premise that these features must be self-sustaining or maintained by a third party. Examples of these might be:

- A stand or grove of trees with a specific covenant agreement.
- A limited number of benches created from local timber.
- A limited number of sculptures created from local timber.
- The provision of a memorial plaque on key features within the site such as the Woodland Bunker or observation points.

WOODLAND STRUCTURE

The features listed in the above section are designed to enhance the amenity value of the woodland. The fundamental woodland structure is described below and illustrated in figure nine.

PLANTING SO FAR

On 26th February and 4th December 2010, phases 1 and 2 of the ACW's development were undertaken. Over 2,500 trees were planted across 2.3ha in order to initiate the project. This was used to test the feasibility of large scheme planting and to generate interest and support from the local community.

On 26th February 2011 580 trees were planted in 5 hedgerows across the site. Exposure tolerant species were used so that they may form a shelter for the trees which will be planted behind them in the coming years.

GLADES

Les Rochers contains several areas of species-rich grasslands which are maintained by rabbit grazing and trampling (associated with footpaths). Good quality grasslands such as these are a nationally scarce habitat (The Grasslands Trust, 2008) and so it is imperative that they are preserved. Trees planted at the margins of these areas must be kept at a distance of 10m so that they will not shade out the grassland once fully grown. The scrub within these margins will be cleared and allowed to revert to grassland to prevent scrub encroachment. These glades will require careful management in the future to conserve their floral diversity.

It is hoped one may be managed as a wildflower meadow. It will be sown with locally sourced, wildflower seed and may be used for educational events.

SCRUB CORRIDORS AND STEPPING STONES

Together with the existing blackthorn and hawthorn scrub, some areas of the woodland will not be cleared or planted, but will remain as dense brambles or scrub to provide a variety of structure within the woodland. This will be beneficial to various species of birds, e.g. bullfinches, and will act as habitat corridors, providing cover to small mammals and invertebrates.

Four large areas have been highlighted as of specific importance:

- Two sections, one either side of the entrance to Battery Quarry, have been found to have a high diversity of bird species (Riley and Morgan, 2011). This, coupled with the high sodium levels in the soil which will limit tree growth without assistance, suggests they will sustain the highest diversity if left as dense brambles and ivy. A corridor of scrub will be left round the lip of Battery Quarry to link these, and also to provide an inaccessible barrier to prevent access to the quarry.
- The Sand Pit and a valley rising up from the conifers adjacent to the path cutting from the golf course, will also be left as scrub. These will then be joined by a corridor of scrub skirting around the edge of the woodland.

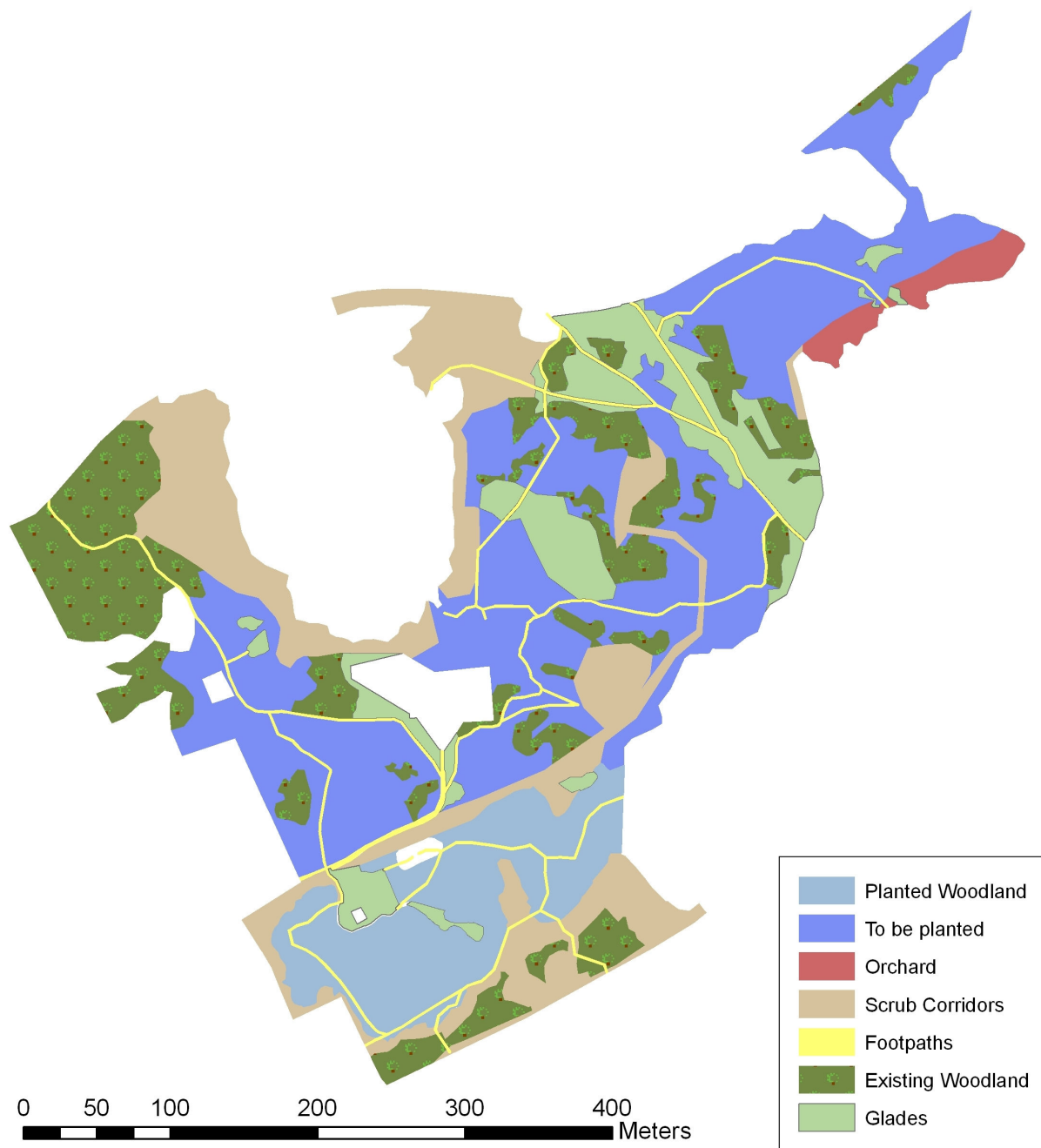


Figure 9. Illustrating the broad planting scheme for the woodland. Existing woodland includes areas of dense blackthorn, hawthorn and elder. Scattered trees or woody shrubs are included in the 'to be planted' section, but will be retained and inter-planted.

HEDGES

As with the bramble corridors, hedges will increase the connectivity of the site, acting as wildlife corridors for animals which wish to avoid the more open woodland floor. The hedge around the sand pit will act as a food source and screen for the birds in the sand pit. Several other hedges around the site are planted with exposure tolerant species to provide shelter for the trees which will be planted behind them. Yet more will be used to compartmentalise the woodland, improving its overall appearance.

During Arbor Day February 2011, 580 trees were planted in five hedgerows (illustrated in figure 9). The species composition of the hedges is included in Appendix 3. The only hedges remaining to be planted are ones which will skirt the lip of Battery Quarry, 20m from the edge, and the hedge to border the Sand Pit, both of which are scheduled to be completed in November 2011.

WOODLAND

As mentioned above, over 3,000 trees have already been planted during Phase 1, Phase 2 and February 2011 Arbor Day. These plantings, as with all following planting sessions, were conducted using species native to Alderney (Appendix 2). It is vital that species which have a long established association with Alderney are used as they support a much higher diversity of flora and fauna than non-native species. For example, willow, birch and oak are known to support well over 400 different species of insect in comparison to only 43 associated with sycamore (Blakesley and Buckley, 2010).



Figure 10. Illustrating the broad planting scheme for the woodland.

The main tree planting sessions will be undertaken biannually through 2011 to 2013. The sections to be planted each year are illustrated in figure 10; details of these sections are included below.

2011 Planting

- A Tree planting will be dictated by the results of the soil sampling, (as discussed above). The Children's Area is included in this section.
- B Trees will be planted based on soils. There will be large amounts of inter-planting between the existing hawthorn, blackthorn and elder trees which will be preserved to create a mosaic in structure in the young woodland. Planting will avoid the access routes to the Quarry Gantry and Sand Pit - planting around which will need to be sympathetic to birds using the area.
- C Planting will need to be carefully thought out due to the high sodium levels. New access routes are to be created through this section up to the Orchard site.

2012 Planting

- D In order to clear this ground and in an attempt to improve the nutrient levels in the soil, livestock will be used to clear this site. Following this, the area will be sectioned off as a children's planting area. St Anne's, Ormer House, Watch, Brownies, Guides, Scouts and Cubs will be given the opportunity to create a planting scheme with workshops to help inform their learning. The best planting scheme will be selected for final planting during Arbor Day, 2012.
- E Native species will be inter-planted amongst the pines already on site, the lower branches of which may need to be thinned to allow sufficient light penetration. Once the native trees are well established the conifers may need to be thinned and later cleared to allow increased growing room and to offer a sustainable source for timber.
- F This area also has very high sodium levels, so thought will need to be given to species choice. Sections of this area may need to be left as scrub.

2013 Planting

- G This land will be cleared using livestock. The soils will be monitored to determine the animals' effect on the phosphorus levels. Two rows of trees, 20m from the lip of the Quarry will have been planted during 2011, which will provide cover from the quarry. Access will be needed to the various historical features and the Observation Platform.
- H As with section E, native species will be inter-planted amongst the pines already on site, and subsequently the conifers will need to be thinned.

UNDERSTOREY

As mentioned above, various woodland understorey species are already present on the site. In addition to these species, local seeds from native plants around the island will be collected and sown across the site to assist the spread of native woodland species through the woodland floor and allow local varieties of species to establish, such as holly and box as a shrub layer, and primroses, wood sage and dog violets as additions to the field layer in sunny areas.

TIME SCALE

Included in figure 11 is a GANTT chart illustrating the time scale of the development of the woodland. Annual Action Programmes will be produced to provide further detail into the year-to-year work.

ACHIEVING THESE GOALS

The work described above covers the ideal goals to be achieved through the following three years. The completion of these aims, however, is dependent on the generation of sufficient resources – finance, advice and labour - and to this end the AWT has already engaged with a wide range of stakeholders and local bodies.

First and foremost the States of Alderney has provided the land on which the ACW is being created as well as support in the form of a small annual grant, 32 hours labour per annum (inclusive of machinery), provision of mulch from the garden waste stockpile at the Impot and loan of equipment such as wheelbarrows and generators.

Four main sources have been used for securing resources and funding:

- Local charitable trusts - a local trust has made a one-off grant of £5,000 and additional funds are being sought from other charitable trusts - especially for the development of educational features such as the Nature and Historic Trails and Activities Days.
- Donations from the general public and local interested groups - these have variously been raised by specific fundraising, one-off donations and small legacies. As the works programme develops, further effort will be made to find specific sponsors for features of, and events linked to, the ACW.
- Volunteer support - in the first year, 2010, this was supplied largely through the AWT's Conservation Volunteers group, augmented by large scale support at planting events and the Guernsey Conservation Volunteers (for example, approximately 90 people attended planting on 4th December 2010). However, as the project develops there is an increasing need to create a dedicated labour force to support the woodland. A core group of volunteers was created in November last year and it is planned to grow this group over the next three years, linking them with the woodland, training them in woodcraft skills and offering material benefits in kind for their labour, including the use of materials such as timber.
- Material support and services - Blanchard's Building Merchants, Doug Hamon Architects and Alderney Shipping have all supported the development of the woodland via the provision of materials and services, without which the ACW would not have developed nearly so rapidly. This support is being recognised through the ACW literature and by the inclusion of a supporters' plaque within the site.

However, if the project is to be a success, guaranteed funding is needed to cover the next few years until the woodland can become - at least in part - self-sustaining. Currently the following avenues are being considered:

- Securing major sponsors for the ACW programme. Part of these negotiations involves supporting businesses which want to demonstrate corporate social responsibility and the chance to offer staff an opportunity to get involved in a worthwhile project.
- Securing more sponsorship from local businesses.

- A “Sponsor a Tree” scheme is also being considered, although this brings with it some of the same problems faced by the memorial tree idea.

Through this project, wherever physical alteration to the site is decided upon, appropriate permissions will be sought from the necessary statutory bodies involved.

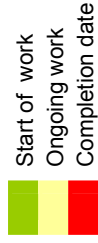
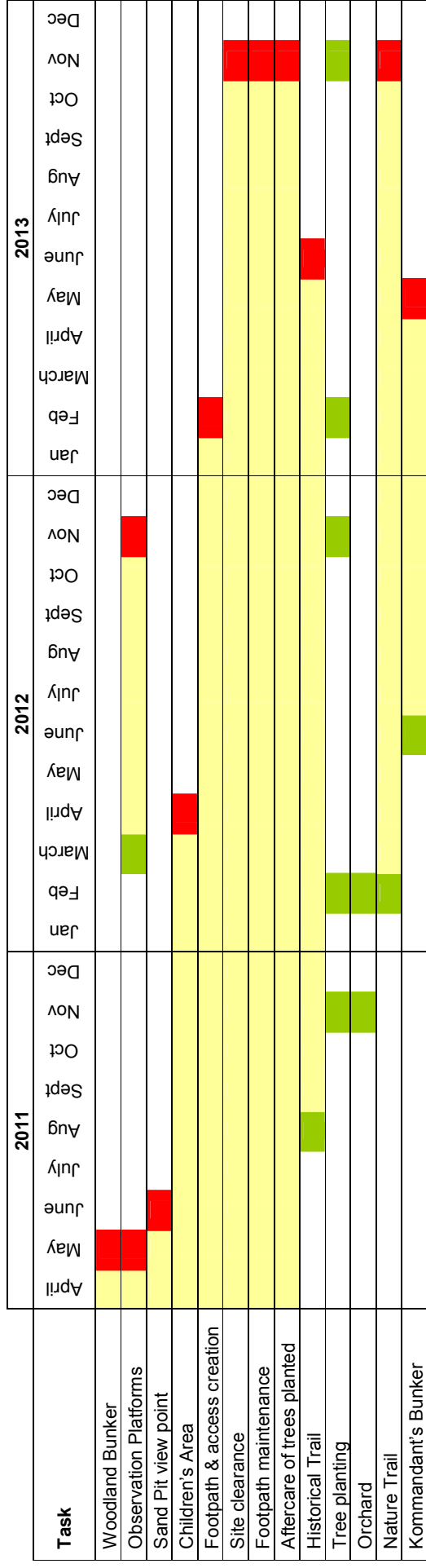


Figure 11. A GANTT Chart outlining the suggested timescale for the development of the woodland and its features.

FUTURE MANAGEMENT

Following the completion of this three year Development Plan, a Management Plan will be compiled, detailing the future management objectives of the site which are necessary to fulfil the overall aims and objectives of the woodland. This will encompass the coppicing and felling of trees to produce a sustainable fuel source, the preservation of the features within the woodland, and the management of the planted areas to ensure growth of a healthy, mature woodland. It is hoped that, following training schemes, management responsibility of the Woodland can be passed on to the local community and The Alderney Wildlife Trust's role in its future management will be largely advisory.

The future management of the woodland will also include the creation of additional features which are not covered in this Development Plan. Suggestions put forward during the Public Consultation of this Development Plan include a sculpture trail, and pond and a non-religious burial ground.

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APPENDICES

APPENDIX 1 – INVOLVED PARTIES

Alderney 41 Club	Alderney Shipping
Alderney Athletics Club	Alderney Wildlife Trust
Alderney Beavers	Alderney Women's Institute
Alderney Brownies	Arqiva Ltd
Alderney Community Sports Centre	Doug Hamon Architects
Alderney Cubs	Featherstone Leach
Alderney Guides	Guernsey Conservation Volunteers
Alderney Golf Club	Kiln Farm Dairy
Alderney Gravel Co. t/a Blanchard Building Merchants	La Société Guernesaise
Alderney Honey Bee Challenge	London House
Alderney Horticultural Society	Ormer House School
Alderney Rainbows	St. Anne's School
Alderney Rotary Club	States of Alderney
Alderney Scouts	States of Guernsey Museum Services
	The Alderney Society

APPENDIX 2 – NATIVE TREES LIST

The trees which were present on Alderney from 3780 – 1385 BP, as identified from pollen and macro fossil analysis of samples from the Longis Area (Campbell, 2000).

<i>Alnus glutinosa</i>	Common Alder
<i>Betula sp.</i>	Birch
<i>Carpinus betulus</i>	Hornbeam
<i>Corylus avellana</i>	Common Hazel
<i>Fagus Sylvatica</i>	Common Beech
<i>Fraxinus excelsion</i>	Common Ash
<i>Ilex aquiolium</i>	Holly
<i>Pinus sylvestris</i>	Scots Pine
<i>Quercus sp.</i>	Oak
<i>Salix sp.</i>	Willow
<i>Sambucus nigra</i>	Elder
<i>Tilia sp.</i>	Lime
<i>Ulmus sp.</i>	Elm

APPENDIX 3 – SPECIES MIXTURE FOR HEDGES

60%	Hawthorn	<i>Crateagus monogyna</i>
20%	Blackthorn	<i>Prunus spinosa</i>
10% mixture of	Wild Privet	<i>Ligustrum vulgare</i>
	Hazel	<i>Corylus avellana</i>
	Dog Rose	<i>Rosa canina</i>