

BALLYVARY: NATIVE WOODLAND ESTABLISHMENT UNDER THE NATIVE WOODLAND SCHEME

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Abstract

This paper examines the creation of a new native woodland site, which straddles a portion of two townlands near the village of Ballyvary, Castlebar, Co. Mayo. It is sandwiched between a main highway and the Ballina rail line. A section of the site has a riparian zone, a tributary of the Moy, which has Special Area of Conservation (SAC) status.

The topography is mainly drumlin, former flood plain and fen bog and the site contains areas of both improved and unimproved grassland. Limestone boulder and gravel lie close to the soil surface. The entrance to the southern portion of the site was formally a quarry site. There is a small hazel woodland on an adjacent rocky outcrop, where a coppice rotation has been developed since 2001, funded by the NWS.

In the process of afforesting the site, retained habitats were identified including calcareous grassland, wet meadow, fen bog, blackthorn scrub, hedgerows and dry stonewalls. Based on the ecological survey, it was decided to plant **oak-ash-hazel woodland** W/N2/B2 (Fossitt, 2000, Cross 1998) woodland type primarily, with some variation on areas inclined to temporary inundation or water logging in winter. These areas contain a higher density of birch and alder. Novel features include a section of drystone wall repair, hedge-laying and combinations of both.

Silvicultural objectives include the expansion of the existing hazel coppice and some production of ash, birch and alder sawlog. The wood will also be a fuelwood resource, a wildlife refuge and a major component in plans for eco-tourism and craft training locally.

Introduction

The creation of new native woodland is facilitated by Element 2 of the Native Woodland Scheme (NWS) which was launched by the Forest Service in November 2001. The NWS planting target is 15,000 hectares by the end of 2006 (Anon., 2001). The first two sites comprising a total of 19.6 hectares were afforested in 2003. One of these sites, with an area of 6.9 hectares (on which I was the main contractor) is described in this paper. A further 9.8 hectares has been afforested nationally to date (Anon., F.S. pers. com. Nov. 2004).

Site description

This native woodland establishment site is partially located on two townlands; Toormore and Laghtavarry, near the village of Ballyvary, Castlebar, Co. Mayo. It was formally part of a family farm now owned by two sons, Des and Bernard Joyce. The site contains a riparian zone along the Toormore River, a tributary of the Moy, which has SAC status. Woodland was not recorded at this site on the first or second editions of O.S. maps for the area, nor on the Down Petty survey c. 1650 (D. Joyce, pers. com.)

Much of the site was covered in scrub composed of blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*) and hazel (*Corylus avellana*) before clearance in the 1970's (D. & B. Joyce, pers. com.). The topography is mainly drumlin and the site contains 6 hillocks and one larger drumlin in the northern part of section G (Fig 1). The Lower part of section G is a former flood plain, but the river has been straightened by the O.P.W in the last 50 years (North Western Regional Fisheries Board, pers. com.) and the gravely spoil has raised the height of the bank above flood height, varying in width from 3-10m. There are strips of ground behind this raised area that retain remnants of grassland vegetation which is subject to intermittent flooding and is classified as **wet grassland (GS4)** (Fossitt, 2000) that was formally more extensive. The northern part of section G supports dense bracken (*Pteridium aquilinum*) in parts as well as patches of blackthorn and a **treeline (WL2)** (Fossitt, 2000) reminiscent of a hedge. There are two patches of fen bog - PFI in section C and the top quarter of section E, now retained and unplanted (Fig 1).

Limestone boulder and gravel lie close to the surface on the slopes. The entrance to the southern portion of the site, at the top part of section F, was formally a quarry site. There are areas of **improved grassland (GAI)** (Fossitt, 2000) on the flatter ground, with deeper soil and **semi-natural calcareous grassland (GS1)** (Fossitt, 2000) on the slopes throughout.

Management prescription

Based on the ecological survey element of the management plan, it was decided to plant **oak-ash-hazel woodland (WN2 / B2)** (Fossitt, 2000, Cross, 2002) primarily, with some variation on flat areas in sections G and D, subject to temporary inundation or water logging in winter, which contain more frequent plantings of birch (*Betula pubescens*) and alder (*Alnus glutinosa*), (potentially **wet pedunculate oak-ash woodland (WN4)** (Fossitt, 2000)) (Fig 1).

In the process of afforesting the site, retained habitats included calcareous grassland (requiring stock proof boundary to the adjacent new woodland), wet meadow, fen bog, **blackthorn scrub (WS1)** (Fossitt, 2000), **hedgerows (WL1)** (Fossitt, 2000) and dry stonewalls (BL1) (Fossitt, 2000).

Novel features of the contract work included a section of stock proof dry stone wall repair in section F, hedge laying and combinations of both in section C (Fig 1). The costs of these were written into the management plan, where their application was deemed to be a viable substitute for the 3-strand barbed wire fence alternative, but also in the context of conserving traditional skills and cultural heritage where the opportunity arose.

There is a small hazel woodland (WN2, B2) (Fossitt, 2000; Cross, 2002) of 0.5 hectares on rocky outcrop adjacent to section F and below the map mark 'ESB' (Fig 1), on which a coppice rotation has been developed since 2001. Two harvesting coupes have been cut to date (Nov' 04). Silvicultural objectives at this site include the expansion of the existing hazel coppice, by developing new harvesting coupes from year 10 in the two small fields on the boundary of adjacent section F and on the sloping areas of section G (Fig 1). There is expected to be some production of ash, birch, alder and occasionally oak through selective thinnings, from year ten approximately, and small sawlog from 30 –50 years, after planting.

Hazel and birch, combined with the associated minor species of B2 type woodland (Cross, 2002), will become common understorey species and act as nurse crops to the ash, oak and alder throughout the site. These will also provide coppiced material for traditional crafts. The new forest will also serve as a fuelwood resource, a wildlife refuge and a major component in the owner's plans for eco-tourism and craft training locally.

Establishment methods

Site preparation involved 'scrap inverted mounding' using an excavator to scrape the sod off, then remove a scoop of underlying soil, push the sod to the bottom of the hole and drop the underlying soil on top of the sod. This was done at an approximate spacing of 1.8m x 1.8m.

One new drain of 5m in length was created in section D to facilitate future machine access (Fig 1). Scrub patches of hawthorn and blackthorn were left undisturbed. Fencing using 3-strand barbed wire was erected where wall repair or hedgelaying could not provide an effective stock proof barrier. Six new gates were installed, three of which provided pedestrian access to the site.

Planting

Trees were notched onto the mounds. Firstly, 50-100 of each of the minor species rowan (*Sorbus aucuparia*), holly (*Ilex aquifolium*), spindle (*Euonymus europaeus*) and crabapple (*Malus sylvestris*) were distributed throughout the site.

These species were intermixed with c.4000 each of ash, hazel and birch plus 1500 each of oak and alder. Willow (*Salix sp.*) regeneration is randomly occurring on the site; hence no new willow trees were planted. Initially, it was decided that wild cherry (*Prunus avium*) would not be introduced to the site, because there appeared to be no evidence of it locally, however, 2 seedlings were noted in section G during maintenance in July 2004 (Fig 1). Planting an additional small number of source identified wild cherry is being considered as part of the 'filling in' operation of winter 2004/5.

Administrative problems affecting the work

Approval of grant aid was received from the Forest Service on 17/10/03, with a request for invoices from completed operations to be submitted by 30/10/03, i.e. two weeks later.

The rationale behind this request dictates that inspections of the site, to approve grant payment, should occur sufficiently early to allow administration to include the approved payment on the payments list by the December deadline. This situation could force contractor work to be undertaken out of season thereby ignoring best practise in order to meet administrative needs. The absence of a multi-annual funding mechanism urgently needs to be addressed.

Special Area of Conservation (SAC)

Excavator work commenced on site on 1/11/03. The excavator operator was to commence work on section G along the Toormore River however, the District Wildlife Ranger pointed out that a band 30m wide, along the Moy tributary, had been declared a Special Area of Conservation during the summer of 2003. The operator started in section F instead, while the updating of records and interactions between Forest Service and Wildlife Service on the matter was completed over the course of a week. Work then commenced on section G as per the agreed management plan (Fig 1).

Timing of planting

When a site is mounded it is best to leave the mounds to settle for a month or two, before planting. This was not possible, due to the constraints mentioned above and the uncertainty as to whether the Scheme would continue in 2004. The seedlings were planted within 2 -3 weeks of mounding resulting in the need for a greater level of 'firming in' of plants than would normally be required, in the months that followed.

The oak plants, which were the largest species used, at a height of 60-90 cm+, needed the most attention due to loosening on the mounds. These plants still retained much leaf when they were collected from the nursery in mid-November. Die-back was noted in many oak when growth commenced in May. Many of the affected plants have been cut back and a healthy re-growth was observed on the majority of these, during grass cleaning. Failures are c.20% in oak and less than 5% in other species.

Plant supply

Indigenous genetic stock of ash, birch, alder and most minor species are readily available in both public and private sector tree nurseries in the southeast of the country however oak and hazel are in short supply. The 1,500 oak (*Quercus robur*) purchased for this site represented c.8% of source identified stock available for planting in 2003, on the island of Ireland and were available from Coillte and the Ulster Wildlife Trust; the 4000 container-grown hazel (*Corylus avellana*) comprised c.50% of available suitable stock.

Maintenance

Grass cleaning, combining the use of slash-hook to pull vegetation from around the trees and trampling, was carried out during June, July and August 2004. A combination of spot spraying using Glyphosate and manual cleaning will be required in the summer of 2005. The 'filling in' of losses will be carried out in the winter of 2004/5. Because mounds are placed back into the hole they were dug out of, with the inverted scrape mounding method, they tend to be lower in height than conventional mounds, which are dug out of drains and placed on an unbroken surface. This means that competing vegetation begins to affect the newly planted stock sooner in the growing season.

Conclusion

Social benefits are being planned for this new native woodland at Ballyvarry in terms of craft training courses and field trips. The administration of the scheme has partially inhibited the commencement of works. Since the launch of the scheme in 2001, three afforestation sites have been planted to date giving a total of 29.4 hectares, i.e. November 2004. The official target of 15,000 hectares is not likely to be achieved by the end of 2006. Shortages of oak (*Quercus sp.*) and hazel plants due to unpredictable mast years need to be factored into plantation design. This shortage can be counter-balanced by initially stocking with a higher proportion of pioneer species such as birch, which is in plentiful supply and subsequently 'filling in' with more oak and hazel as they become available. Plant supply needs to be reviewed in the context of the whole country, so that the maximum amount of potential stock is known and certified for use each season. The November inspection deadline for afforestation needed to change and has now been extended to the following June in relation to measure 2 approvals under the NWS.

Mimicking the type of wood that may naturally occur on a site, while having due regard for the retention of non woody micro-habitats to maintain or enhance species and create structural diversity, is now being supported by the Forest Service through the Native Woodland Scheme. This provides a new set of criteria and a different option for the Irish forestry industry, which is at least as valid as the parameters that were set out in the schemes of earlier times. Wood production objectives as planned, are considered to be in harmony with wildlife and fisheries objectives.

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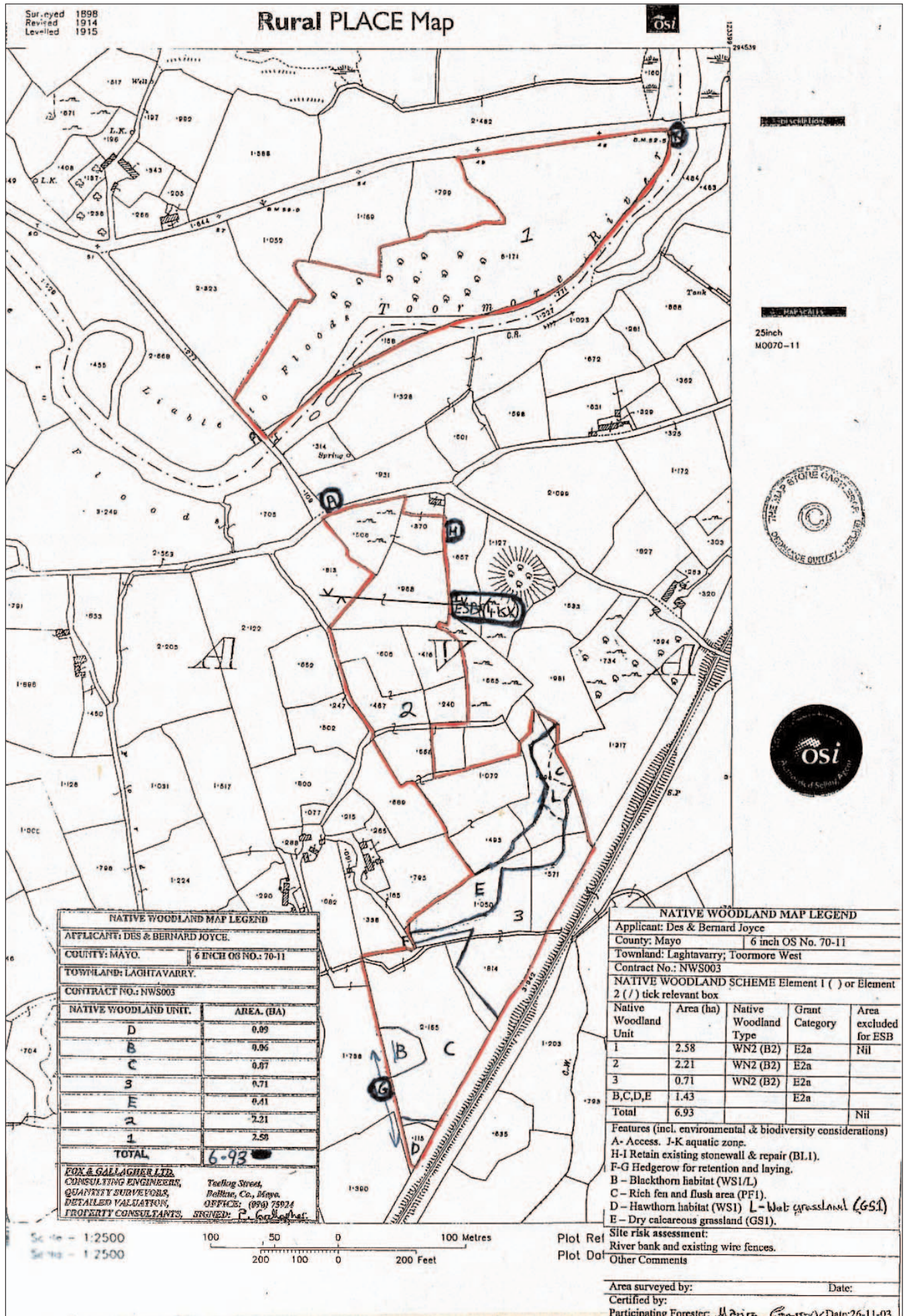


Figure 1: Schematic representation of the area managed under the Native Woodland Scheme at Ballyvary, Castlebar, Co. Mayo.

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