



# Woodland Biodiversity Survey

Client: Celtic Druid Temple

Author and Inspector: Shailagh E Healy

Date: June 25<sup>th</sup>, 2019

**Location:** Candlefield, Castlerea, Co. Roscommon

**Nature of Inspection:** To ascertain base line biodiversity and general silvaculture maintenance framework on six hectares of new woodland of approximately six years.

**Date of Inspection:** 12/06/19

**Weather Conditions:** Partly cloudy

**General Observations & Recommendations:**

Due to previous farming practices and land use techniques the majority of the land suffers from poor soil regeneration. Anaerobic and highly acidic soil conditions have lead to low biodiversity and limited species with the most predominant and acid loving indicator plants being Sorrel (or spinach dock), Red Shank, Grass sedge species and Bracken fern.

As the land rises to higher ground with improved soil conditions additional plant species occur, which include Ragged robin, Buttercup, Thistle, Blackberry and Willow.

Con and Niamh have been living at this property since 2008 and have sighted a large range of wildlife – an otter, lizards, marsh fritillary butterfly, curlew, woodcock, bats and owls. In the immediate surrounds red squirrel, pine martin and jays also exist. Further long term species specific surveys are recommended to monitor change and growth in the biodiversity as the forest evolves and changes.

Pathways have been mowed throughout the land. Additional paths in the forested area with foot bridges and raised walkways where necessary is recommended to enable guests to the land to interact with the landscape without ground compaction.

### **Hedgerow Observations & Recommendations:**

Original hedgerows remain relatively intact and without testing indicate more balanced soil PH. These hedgerows are the largest source of biodiversity and possess the most beneficial eco tone on the land. Suggested pathways near the hedgerows.

To the eastside hedgerow of house are shrubs Box, native Privet and Wild cherry, which suggest a historical homestead.

Invasive/non-native Snow berry and Laurel should be monitored and/or cut back as their nature is to propagate readily.

Encourage more berry and nut shrubs for wildlife, planted off from original hedgerow (please find a list of shrub/tree suggestions further in report). As the soil would indicate a more alkaline soil type, additional wild cherry, bird cherry and spindle could be planted along with other shrub species.

### **Temple Observations & Recommendations:**

Seed with wild flower mix suitable to acidic soil and allowing one cut in autumn time. Ensure the mix is hardy enough to withstand a potential invasion of the well-established and invasive bindweed. If the plant Figwort cannot be found in the rath, might I suggest it is included in the flower mix.

### **Miscellaneous Observations & Recommendations:**

Guelder rose is the main (if not the only) berry shrub included in the plantation.

More species of berry shrubs should be included.

Shrub margins are to be encouraged particularly at rear boundary and margin of tree lines near the “Urn Field” and under the power lines between the plantation margins where a glade effect could develop over time.

These margins should scalloped by approximately 4-5 meters to optimize eco tone.

Approximate to the Urn field is a natural cluster of Hawthorne, Holly and Rowan with beneficial standing deadwood. This is a micro biodiversity zone and should be preserved.

An Additional oddity growing through hedgerow near the Temple is Broom. Both Broom and its cousin, Gorse should be encouraged as they provide a valuable food source to bees and insects and source nitrogen from the soil.

Allow Willow to grow at pathway entrances so as to possibly weave gateways. Remove all remaining tree braces and ties.

### **Mixed Woodland Observations & Recommendations:**

Limited accessible nutrient availability in soil, thick grass competition and air circulation are some of the challenges the newly planted trees must endure to survive.

Organize a grass “tramping” event around the smaller or struggling trees at least four times in the year for weed suppression.

In two years time thin any tightly planted and clustered Scotts pine for improved air circulation.

Monitor and where possible increase fencing against deer grazing. Deer protection is paramount.

In two years time thin or coppice 35% of the Alder. Following this fill in remaining gaps with additional Alder, Rowan, Ash and Sycamore .

With the exception of the newly planted trees, thin/coppice an additional 40% of the thriving and healthy stand in eight years time.

### **Oak plantation Observations & Recommendations:**

Thin/coppice Oak plantation by 20% in four years time and an additional 35% in ten years time.

Grass tramp around any marginal trees at least four times a year.

## **Conclusion:**

Improvement of soil conditions, water drainage and take up are visible from the efforts of the recent years. With proper management practices and the succession of time the land would eventually regenerate into a unique woodland and thriving ecosystem.

## **Additional & Replacement Tree/Shrub Recommendations:**

Without further consultation the query of replacement trees allows for a large berth in options. Suggested below is a variety of native and non-native species. Both are capable of delivering a higher nature and wildlife value to the area, albeit planting techniques, maintenance and environmental conditions play a crucial role, regardless of species.

**Native species:** Crataegus monogyna (hawthorn) - native or ornamental, Prunus padus (bird cherry), Prunus avium (wild cherry), Corylus avellana (hazel), Malus silvestris (crab apple), Sambucus nigra (Elder), Sorbus (Rowan), Euonymus (Spindle), Rosa canina (Dog Rose)

**Non Native** (with aesthetic and wildlife value):

Liquidambar styraciflua (sweetgum), Quercus rubra (red oak), Castanea sativa (Sweet chestnut), Alnus cordata (Italian alder), Ginkgo biloba (ginkgo), Cotoneaster, Tilia (Lime) and conifers Larix decidua (European Larch) and Tsuga heterophylla (Western Hemlock)

- It is highly suggested that tree stock come from a reputable and local nursery, as local trees should be “hardened off” to local climate conditions.

~ Shailagh E Healy

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*"The tree which moves some to tears of joy is in the eyes of others only a green thing that stands in the way. Some see nature all ridicule and deformity... and some scarce see nature at all. But to the eyes of the man of imagination, nature is imagination itself"* ~ William Blake